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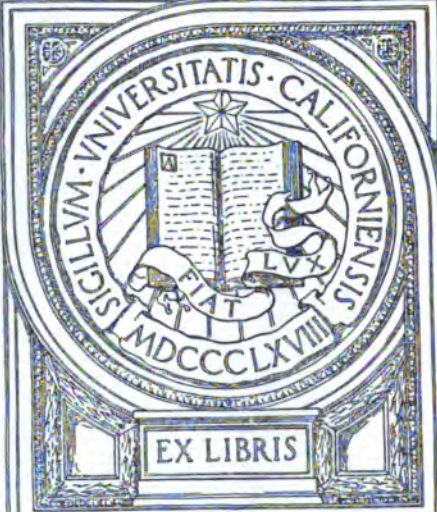
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# **The HAHNEMANNIAN Monthly**

**VOLUME FIFTY-SEVENTH**

**JANUARY TO DECEMBER  
1922**

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**EDITED FOR THE HOMOEOPATHIC MEDICAL SOCIETY BY  
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Editorial Committee**

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**PHILADELPHIA  
1922**





# THE HAHNEMANNIAN MONTHLY.

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JANUARY, 1922

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## DIGESTIVE DISTURBANCES OF THE AGED FROM THE STANDPOINT OF THE INTERNIST

G. MORRIS GOLDEN, M.D., PHILADELPHIA, PA.

(Read before the Homœopathic Medical Society of Pennsylvania, Sept. 13, 1921.)

SYMPTOMS referable to the gastrointestinal tract form a very common class of manifestations observed in people after 60 to 65 years of age, and at times these manifestations may show themselves at a much earlier period of life, due even to the causes producing same in the aged.

From clinical observation it has been estimated that at least 30 per cent. or more of subjects over 65 years of age suffer from digestive disturbances of one character or another. From the experience of the writer, these figures are none too low, and from a careful study of such cases, the results would show figures above this percentage.

The dictum laid down by observers that 75 per cent. or more of cases exhibiting gastric manifestations have their causative factor outside the stomach, is of paramount importance when considering such symptoms in the aged.

Fenwick has shown that in every 100 cases of indigestion or dyspepsia in the aged, 65 to 75 per cent. are secondary to organic disease of some important organ of the human body, while the remaining 25 to 30 per cent. owe their disturbances to a progressive degeneration of the secretory structures of the stomach and intestines, coincidental with the usual atrophic changes accompanying the later stages of life. One cannot help but feel that such a type could be attributed to, or placed in the category, as being due to a general arterio

sclerosis or senility, yet the gastric disturbances of an arterial sclerosis with marked splanchnic involvement, differ quite decidedly as will be seen later.

From a clinical standpoint the gastric disturbances of the aged may be divided in three classes: 1. Those secondary to organic disease of other viscera. 2. Due to arterio sclerosis. 3. Functional or atrophic changes.

1.—*Dyspepsia Secondary to Organic Disease.* When we consider the stomach the great sympathetic organ of the body, whose functions are disturbed by disease which attacks the important viscera of the body, we can readily understand that this forms an important class from an etiological standpoint. Hence it can be seen that no logical opinion can be expressed as to the cause of dyspepsia in the aged, or in fact any subject unless the important organs of the body are examined, and their various functions tested as carefully as those of the stomach itself. The important organs that demand attention are those of the lungs, heart and kidneys.

Of the lung diseases producing gastric symptoms in the aged those of emphysema, chronic bronchitis with its asthmatic seizures, bronchiectasis, empyema, interstitial pneumonia, fibrotic change, or if you please, fibroid phthisis, are the important ones to consider, in fact phthisis may show many varieties of dyspepsia. The gastric symptoms are usually those analogous to a chronic gastritis in their nature and manifestation, and the result of dilatation of the right side of the heart, inducing a passive congestion of the stomach, while in other types, the result of the constant absorption of toxic materials from the diseased lungs.

The role of cardiac disease should not be underestimated. In uncomplicated valvular disease, the functions of the stomach are not markedly disturbed, but when dilatation occurs, passive congestion involving the portal system ensues, and the stomach suffers in consequence of same, even at times to the point of impaired motility. Even when compensation is complete the subjects of valvular disease often experience annoying digestive disturbances.

The symptoms of note include oppression and flatulence after meals, distention producing attacks of palpitation, dizziness and at times syncope. Vomiting ensues and may be persistent, the vomited matter consisting of bile, stained mucus and occasionally blood. Pain is variable and apparently de-



pend upon the degree of arterial change present. At times an acute abdominal condition may suggest itself. Such a case was observed by the writer several years ago, in which appendicitis was suspected, but examination proved the presence of a decompensated mitral regurgitation, with advanced arterial sclerosis and high blood pressure. Treatment along these lines, with a well regulated diet give complete relief, the patient subsequently succumbing to a terminal pneumonia about a year later.

The relation of kidney disease is interesting. For some unexplainable reason the toxæmia of chronic kidney disease shows a predilection to irritation and congestion of the mucus membrane of the intestinal and pulmonary tracts.

Digestive difficulties are often the sole subject of complaint in kidney disease, and an erroneous conclusion is reached by considering the gastro enteric disturbance the primary condition when by a careful examination of the urine the true difficulty would be determined. The symptoms vary somewhat according to the type of kidney lesion present. In chronic parenchymatous, vomiting, constipation and pain with marked gastric irritability are present, while in those due to interstitial changes, anorexia, nausea, flatulence, emaciation and irregular bowel action most frequently present themselves. Vomiting in both types is morning in character and depends upon the severity of the toxemia. If excessive and associated with severe headache, onset of acute uraemia should be suspected.

The importance and recognition of this triad of lesions, namely, lung, heart and kidney diseases in producing gastric manifestation should be thoroughly impressed upon our minds. It constitutes from a clinical standpoint one of the most important and convincing illustrations of the vicious circle of disease. It can be seen from a study and correlation of the pathological sequences that follow each other, while the disease may be primary in any one of these three great systems, yet it is only a matter of time when they all eventually become involved, and the vicious circle is complete, the gastric manifestations being only a sector in this great circle.

Other conditions to be reckoned with as causative factors include those of diabetes, specific disease, gout, long-continued hypersecretion due to an old ulcer, gall stones, fibroid appendix and lastly that of insufficient mastication, due to the faulty condition of the teeth so often observed in old subjects.

2.—*Arterio Sclerosis.* Gastric disturbances, due to arterio sclerosis are found in patients, with either a generalized sclerosis or in those in which the splanchnic arteries only appear to be diseased. This type forms an important clinical class. Observation has shown that the mesenteric vessels evidence sclerosis far in advance of other valvular territories, and when we consider that such changes alter function probably three ways, namely: 1. Lessened blood supply, diminished activity, hence capacity for work is reduced and atrophy follows. 2. As a result of localized ischaemia there occurs spasms of vessels followed by pain and loss of function. It is to this fact that Powell, of Vienna, attributed the vascular crisis which are so common following these changes. 3. An obliterating endarteritis of the terminal vessels may occur producing necrosis or gangrene. When these pathological factors are considered the symptomatology of this class can readily be explained. Of the symptomatology, pain is the most prominent; it is paroxysmal, later may become constant; and situated in umbilical or epigastric regions; and practically always made worse or brought about by exertion, especially after eating. At times is anginal in character and frequently radiates to cardiac region and down left arm, receiving the term anginal abdominus. Flatulence and abdominal distention are always present, and distressing. Weakness and prostration are common, and often associated with considerable loss of flesh, which is the rule in arterio sclerosis, but becomes marked in those cases exhibiting dyspeptic symptoms. As a matter of fact malignant disease is often suspected in these subjects. The appetite is variable, and alternating attacks of diarrhoea and constipation are apt to occur. Gastric analysis invariably shows diminished or absent hydrochloric acid. With the presence of such symptoms it is our duty to examine carefully the cardio vascular system. In the matter of diagnosis it is of utmost importance not to be led astray by the gastric manifestations or the complaints of indigestion of the patient, and so neglect to obtain a full history and make such careful examinations as will reveal the deeper causes, of which the digestive disturbances are only symptoms.

The diagnosis is not usually hard, but let us learn to recognize its presence.

An examination of the vascular system usually reveals a heart somewhat enlarged, presence of aortic sclerosis, evi-



denced by a sharp slapping second sound and systolic murmur over aortic area, thickened arteries, epigastric or suprasternal pulsation, and invariably a physical sign readily determined but not always sought for, *i. e.*, tenderness and pain, on deep palpation of the abdominal aorta. All of these factors unmistakably point to the circulatory system as the real cause of the trouble. Many of these cases are designated acute indigestion, and form that class in which sudden death occurs from that supposed cause, when in reality it is due to an arterial sclerosis exhibiting an atypical anginal attack.

Uncommon manifestations may be those of hematemesis, or intestinal hemorrhage—such a case I was able to observe several years ago; that gave a previous history of manifestations characteristic of mesenteric sclerosis. Treatment directed along these lines brought about prompt stoppage of the hemorrhage, that had been recurring for three days, and the patient made an uneventful recovery.

3.—*Functional Dyspepsia or Atrophic.* A functional disturbance after 65 years is not at all uncommon, as observed by Fenwick; frequently old subjects exhibit an enfeebled and capricious appetite, in which a limited dietary must be used without any other abnormal condition present, other than those accompanying the usual atrophic changes of advanced life. These pathological changes are interesting. After 50 years of age there is a progressive degeneration of the secretory structure, with over-growth of connective tissue, involving progressively coat after coat. These changes are analogous to those found in arterio sclerosis and interstitial nephritis. It seems fair to argue that the atrophy of the alimentary tract is the expression of a mild but a chronic toxemia, the poisons of which produce irritation during their elimination by the glands of the gastric and intestinal mucosa. These factors tend to uphold the theory of autointoxication as one of the important etiological factors in the production of vascular changes. Although there be no marked evidences of general arterio sclerosis, it seems logical that the gastric disturbances of this class, are the expression of a visceral sclerosis of varying degrees, with resulting damage to the secretory glands presiding over digestion.

The symptomatology in this variety varies. Usually it is insidious in its onset. Flatulence is the most prominent symptom usually most marked in the morning and upon the

empty stomach; later it is almost a constant feature. The bowel is constipated and alternates very frequently with a diarrhoea, lenteric in character. Pain in the early stages is usually complained of as distress, later becoming colicky, associated with fluid movements of the bowel, and much flatus which relieves the pain. Vomiting is not common. The appetite varies and forms the basis of the following clinical classifications:

1.—The hyperkoric or asthenic type; there is an early satiety for food, marked loss of appetite, even to the point of sitophobia. As a result, scarcely sufficient food is taken to maintain life for fear of taking food becomes permanent.

In the second class, the akoric or sthenic type, the subjects are obese, the appetite is rarely satisfied, and is associated with faulty elimination, producing an indefinite train of symptoms due to autointoxication. Atonic conditions of the stomach are present even at times to the point of pyloric insufficiency.

In closing let me urge a careful and painstaking examination of the old subjects exhibiting gastric manifestations and not neglect them as is too often done. It is only by this method that a correct diagnosis may be reached, and proper treatment instituted.

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## ROENTGEN RAY DIAGNOSIS OF PULMONARY TUBERCULOSIS

WALTER C. BARKER, M.D., PHILADELPHIA, PA.

(Read before the Homœopathic Medical Society of Pennsylvania, Sept. 13, 1921.)

It may seem that this subject is too well known to be presented again, but with further experience, the interpretation of the Roentgenograms becomes more accurate. The value of the roentgen examination of the chest is not fully recognized, and many lesions of the lungs other than tuberculosis, may be revealed by this method. In a recent article by Christie, attention is directed to the frequent occurrence of primary malignant growths in the lungs. He states that Adler reports 374 proven cases at post-mortem, and that Carmen, up to 1918, reports 460 cases. A few years ago, pathologists considered that the invasion of the lungs by syphilis was very rare. Wat-



kins reports that out of 6,500 X-ray examinations of the chest, 172 had syphilis of the lungs; and of 948 cases of advanced pulmonary tuberculosis, 209, or 22 per cent. showed a mixed infection of syphilis and tuberculosis in the lungs. With all the various types of infections of the lungs and pleura which may be recognized by the roentgen study, such as those due to the pneumococcus and streptococcus, and the various forms of influenza, this method of examination should be more frequently used.

The subject of this paper is confined to uncomplicated pulmonary tuberculosis in the early stages, and in both active and healed states.

In making a roentgen ray study of the lungs, an examination should be made under the fluoroscope, as well as by plates. The lungs show to the best advantage when the anterior surface of the chest is against the plate. In some cases, the lateral view is also of value. By the fluoroscopic examination, it is possible to determine the amount of excursion of the diaphragm. In some patients with tuberculosis, the motion of the diaphragm is limited on the affected side. The expansion of the lungs may be compared one side with the other. The shadows of the great vessels and heart, may be studied; and when there are dense shadows extending from the mediastinum into the lung shadow, it is possible to tell whether they pulsate and expand.

Before studying the pathological ones, it is well to review the shadows of the normal lung. Two lines starting at the sterno-clavicular joints, and meeting at a little to the left of the mid-sternal line, at the junction of the first and second portions of the sternum, will outline the pleura and lung shadows. This line extends downward to the junction of the fourth costal cartilage with the sternum; at which point, the left pleura and lung are directed outward toward the left, the lung reaching by a curved line to the mid-clavicular line at the junction of the sixth rib. From this point, it extends to the mid-axillary line at the junction of the eighth rib, and to the tenth rib at the junction with the spine. The space between the mid-sternal line and the line of the lung, corresponds to the precordial space. The line for the right lung, continues downward almost to the junction of the sixth costal cartilage with the sternum, and then extends across the chest the same as upon the left side. The pleuræ are one rib lower at the

base than the lung and this space is almost filled during deep inspiration.

The lobes of the lungs may be outlined by a line starting from the spinous process of the second dorsal vertebra, which corresponds to the body of the third dorsal vertebra, and extending outward and downward to the junction of the sixth rib with the mid-clavicular line. All above this line corresponds to the upper lobe; and that portion of the lung below to the lower lobe. On the right side a line from the junction of the interlobar fissure with the mid-axillary line, extending across the thorax almost horizontally to the junction of the fourth costal cartilage with the sternum, will divide the upper lobe; the lower portion being called the middle lobe. Anteriorly, on the right side, a portion of the three lobes presents; and upon the left side, a portion of two lobes; laterally upon the right side, three lobes present; and upon the left side, but two; posteriorly two lobes present upon each side.

The structure of the lung is best studied by starting at the roots. The shadow of each root includes the shadows of the bronchus, the pulmonary artery, two pulmonary veins, one bronchial artery on the right side and two upon the left, one bronchial vein, lymphatics and nodes, nerves from both the posterior and anterior pulmonary plexus, alveolar tissue and the whole surrounded by pleura and bound down to a definite distance from the diaphragm by a thickened fold of pleura known as the *ligamentum latum pulmonis*. The relations of the bronchi and larger vessels, are important to note. The bronchi are posterior and the pulmonary veins anterior to the pulmonary arteries. On the right side, the bronchus is shorter than upon the left, and the superior trunk is given off above the level of the pulmonary artery. On the left side, the bronchus is below the level of the pulmonary artery and all the branches are given off below this level. In the lung, the root divides into two main trunks, which are a superior one and an inferior one; and on the right side, a third trunk, the median one, which goes to the middle lobe. The superior trunk divides into three branches, which are named according to their location, the vertebral branch and the first interspace and second interspace branches. The inferior trunk divides into branches, some going anteriorly and others posteriorly.

The changes which occur in the lung affected by tuberculosis, have a distribution and arrangement which is diag-

nostic. According to Dunham, the entrance of the tubercle bacillus is through the respiratory tract. It is then carried into the smaller subdivisions of the bronchus as far as the ductulus alveolaris and the ultimate lobule. From there, it is taken up by the phagocytes and carried to the lymphoid tissue, which is abundant at the junction of the subdivisions of the bronchus and vessels. Here the bacilli are either destroyed or become active. If a tubercular focus starts, a cone shaped shadow will be seen, with its base toward the pleura, and its apex directed toward the hilum. From here, the infection is carried through the lymphatics to the hilum, and then, usually, toward the apices of the lung along the bronchial branches. This early picture is not commonly observed, as the patients sent for examination have advanced to that stage where the infection is involving the branches of the superior trunk. The earliest pathological shadow is that of the infiltration which occurs around an area of tuberculous infection. This shadow appears as a faint increase in density, which blends away into the normal lung shadow. If the infection continues active, caseous material is thrown into the air spaces and this will show as irregular dense shadows scattered through the area of infiltration. The edges of these dense, irregular shadows, are blurred. If the disease becomes arrested at this stage, the shadow of infiltration will disappear, together with some of the mottling; while other areas will become denser, with smooth edges which are sharply contrasted against the normal lung shadow.

If the diseased conditions extend, there will be an increase in the mottling appearance through the lung shadow, which may even include the whole apex of the lung, and be scattered along the branches of the superior trunk. In some of these areas of consolidation, the lung tissue may soften and break down forming cavities. If the disease is arrested in this stage, many of the areas of mottling will disappear entirely, as they are not due to caseous material but to a sero-fibrinous exudate. The shadows cast by the caseous material, will become smooth in outline and show clearly against the normal lung shadow. Some of these areas may contain calcareous deposits. There will also be numerous bands of fibrous tissue through the area which was involved.

From a therapeutic point of view a diagnosis of tuberculosis is incomplete without stating whether the lesions are those of an active stage or are healed.

**CLINICAL JUDGMENT**

WM. RENDELL WILLIAMS, M.D., PHILADELPHIA, PA.

(Read before the Homœopathic Medical Society of Pennsylvania, Sept. 13, 1921.)

POSSIBLY I should apologize for selecting a non-technical subject for discussion before this bureau, but I feel that when we are gathered together in this way to renew friendships and exchange ideas, it may be to our mutual interest to examine what may be considered a fundamental essential of the successful clinician.

In the first place, what or who is a successful clinician? I would describe him as the man who gets results; who cures when cure is possible; who prolongs life when cure is not possible; who relieves suffering intelligently; who even when waging a losing battle with disease, fights to the end, and then can feel that he has done nothing to jeopardize his patient's chances of recovery, and has left nothing undone that in his judgment might have secured a more fortunate outcome.

I do not mean the greatest money-maker, nor the man with the greatest numerical following, nor the man most popular amongst his colleagues, nor the man whose clientèle is among the élite, nor the man whose name frequently appears in the daily press, and who enjoys fame in the layman's mind.

It is common knowledge that it is not the man with the greatest amount of book knowledge who makes the most successful physician. It is not the man with the utmost culture and thorough collegiate preparation, nor even he with the most comprehension of the fundamental medical sciences. It is not the man who is graduated with the highest honors, nor the man with the greatest affability and the fortunate possessor of those charming personal qualities which endear him to his patients and colleagues. In generosity, kindness, sympathy and charity he may be a veritable William McClure, whom Ian McLaren made immortal in his "Doctor of the Old School," but if he lacks that something which we call "Clinical Judgment"—that faculty which enables him to know what to do and when to do it, the ability to do the right thing at the right time—he falls short of this standard of success which we have outlined.

I am persuaded that this faculty or attribute, which I call

Clinical Judgment, is the most valuable possession that a clinician can have.

We all know of brother surgeons, who show a woeful lack of this quality. The man with the utmost technical skill, the man clever with the knife, who is so sadly lacking in *surgical* judgment that he neither knows when not to operate nor when to stop operating. He is a dangerous man, but not more so than the medical man with the same lack of judgment, although the latter's work and poor results are not nearly so dramatic.

Is clinical judgment born in a man, or may it be acquired? I have studied this matter as a teacher, as a practitioner and as a consultant.

In the clinic it is interesting to observe the student's attitude when he first approaches the bedside of the sick patient; to analyze his mental workings as he endeavors to make a diagnosis; as he tries to put to a new and unusual application the knowledge that he has acquired on the benches, or that small residue which has clung to his memory after the great mass of data which he had crammed for examinations has evaporated into thin air.

If he is analyzing a case of heart disease, I tell him he must be able to visualize the heart he is studying, to see in his mind's eye the normal anatomy of that heart, its normal mechanism, in order to be able to appreciate the pathological changes before him. Knowing the right thing to do for his patient depends entirely upon his ability to grasp and thoroughly appreciate the pathological anatomy and pathological physiology which are present in the case before him. This is diagnosis, and it goes without saying that knowing what to do and when to do it, depend primarily upon the ability to make a thorough diagnosis.

One can even at this early contact with the future physician, determine with considerable certainty whether he will *ever* be able to acquire clinical judgment.

As a practitioner I made a habit of analyzing the mental workings of the big men with whom I came in contact at the bedside or in the clinic, preferably at the bedside in consultation. You cannot estimate their clinical judgment from their writings or their papers. Professors cram for clinics as students do for examinations.

You are all familiar with the voluble consultants who infest



meetings such as this is, for business purposes. I have one in mind, long since retired to more profitable fields, who could retail most entertainingly the latest information upon any current medical topic, culled from the literature, of course, in such an interesting manner, that one could not but feel he was the coming Osler. Unfortunately, at the bedside his book knowledge hardly enabled him to tell the difference between a green apple colic and an acute pancreatitis.

I have also seen in the clinic a man endeavoring to teach who could scarcely express his thoughts in an intelligent manner, yet whom I knew to be possessed of the finest clinical judgment. We are apt to refer to such a one as a practical man. It is to him we go for help when ill ourselves, or in need of assistance in some difficult medical problem when we are particularly desirous of getting results. In consultation we rather dread the impression he will make on the family.

As a consultant one has the greatest opportunity to study this qualification as presented by the various types of practitioner one comes in contact with. And the types are various I assure you. One could write a very entertaining book on "The Physicians I Have Met." Strange to say they almost all have their following, regardless of their medical ability as measured by scientific standards. Mr. Jones' physician appears to be the veriest dub to Mr. Smith, and vice versa. I am firmly convinced that the average layman knows little or nothing about the medical ability of his favorite physician, and I think I could prove my point if it were germane to this discussion.

Many capable men are not appreciated by their patients and many mediocre men are over-appreciated.

In consultation one meets the young man, fresh from college, full of diagnostic technique, who presents the case with all the data one could wish or ask for, and yet lacks the knowledge of how best to proceed in conducting treatment. He has the knowledge but not sufficient experience to have acquired that high grade of clinical judgment necessary to the management of a serious case.

On the other hand we meet the older medical man with that keen intuition unconsciously acquired with years of intelligent practice, who may not be able to make a brilliant examination but who knows exactly what is going to happen to that patient and exactly what should be done for him. Such

a physician surely is rarely benefited by the consultation, which more than likely is forced upon him by the family's desire for a specialist.

Then there is the man who believes that the practice of medicine begins and ends with the selection and application of the indicated remedy, and who cares little for diagnosis, scorns surgery, dietetics, hygiene and other measures of treatment, and while futilely endeavoring to accomplish the impossible with his pills and powders, permits his patient to drift into a stage where recovery is impossible.

Then there is the man who allows his sympathy to bias his judgment—to the detriment of his patient's real interests—the man who dreads to tell the blunt truth while it could do the most good, for fear of distressing the patient. Many an incipient tubercular or cancerous individual has been allowed to drift into a hopeless condition because of this tender-heartedness. In a heart disease particularly, dread of instilling an element of fear into a case frequently prevents our insistence upon precautions which we know to be wise.

Now let us consider another angle of this subject of clinical judgment. How is this admirable faculty acquired?

The first necessity is the ability to make a thorough diagnosis. Conscientious practice makes it a comparatively easy matter to quickly search a patient physically as well as mentally, for the physical signs of disease. And yet the ability to make an intelligent physical examination and recognize organic changes in the lungs, heart, abdomen and nervous system, is a faculty possessed by far too few of us. The only difference between an internist and a general practitioner, as I see it, is that one has taken the time and pains to critically examine the mass of material—patients—that we all have in common. Some plead that they haven't time and are not paid for that sort of thing. That is pure sophistry, simply one of the fallacies of the lazy man. Examine the career of any internist and you will find a man not necessarily endowed with abnormal intelligence, but with an infinite capacity for taking pains, plus the ability to reason logically. It is this fallacious idea of the practitioner that he has not time and is not sufficiently well paid for making physical examinations, that creates the need for internists.

I feel then that the first step in the acquisition of clinical judgment is the ability to fully appreciate the exact status of the patient—to make a diagnosis.

To this ability must be added a knowledge of the clinical course of disease. This cannot always be had from one's own experience. A man who treats but one case of rheumatic fever or two or three pneumonias a year, cannot from his own experience anticipate the many complications and variations that may arise in the clinical course of rheumatic fever or pneumonia. Here he must avail himself of the text books and articles upon the subject by those of more extended experience. But a careful, repeated and critical examination and some logical reasoning may give him more practical information than a dozen cases would to a careless observer.

Having thoroughly grasped conditions present, in other words, having made a complete diagnosis, possibly with some laboratory aid, the next step is to determine exactly what he wants to do for the case. This may require the very essence of clinical judgment. Possibly "masterly inactivity" is indicated. Possibly he may encounter a vicious circle of disordered functions which require serious thought to determine where he will attempt to make the first break in this ring of disease.

Let me illustrate. We have a patient with diabetes, albumin and casts in his urine, pulmonary tuberculosis, and peripheral neuritis. Will we treat the tuberculosis, diet him for the nephritis or the diabetes, or prescribe for the neuritis? This requires clinical judgment. Or will we say, "What's the use?" and give him placebo or tonics or sedatives?

This brings me to another phase of our subject—the ability to get results depends also upon a man's therapeutic resourcefulness.

Possibly he thinks a knowledge of homœopathic prescribing is all sufficient. If he does, I feel he is suffering under a dreadful handicap, self-inflicted. He is limiting seriously his ability to accomplish results and do good for humanity.

While I should regret beyond measure having to practice medicine without even my meagre knowledge of homœopathic therapeutics, I feel that that specialty in therapeutics to which we all subscribe is not all sufficient in combating disease.

There is a field for surgery, for electricity, for mechanical measures, for the exhibition of drugs for their physiological effects, and even for suggestion, direct and indirect.

In conclusion, let me sum up this rather sketchy paper. I have merely endeavored to draw your attention to an attribute

of mind, if you please, possessed in common by certain successful clinicians, envied by all of us, I am sure, but beyond the grasp of many.

Clinical judgment is the happy faculty of doing the right thing at the right time—a faculty which upon analysis seems to be based upon the ability to grasp the exact status of the patient; upon an intimate acquaintance with the clinical course of disease; upon the ability to observe accurately and think logically; and upon the possession of the very broadest therapeutic resourcefulness.

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#### **CHEMICAL COMPOSITION OF DIETS USED IN THE CHILDREN'S HOMŒOPATHIC HOSPITAL OF PHILADELPHIA**

JOSEPH SAMUEL HEPBURN, A.M., B.S., IN CHEM., M.S., PH.D.

Contribution from the Constantine Hering Laboratory,  
Hahnemann Medical College of Philadelphia

DR. WILLIAM B. GRIGGS and the author are about to make a study of the stools of sick infants, in order to ascertain the changes in the chemical composition of the stool which accompany the changes in symptomatology, when the diet is changed, or when homœopathic medication is given without a change in the diet. The clinical work is to be done in the Children's Homœopathic Hospital of Philadelphia, the chemical examinations in the Constantine Hering Laboratory of the Hahnemann Medical College of Philadelphia.

As a preliminary to this study, chemical analyses of certain foods and diets used in that hospital have been made by the college students under the personal supervision of the author.

The whey and cream was prepared by mixing one volume of cream with seven volumes of whey. The barley water was made from pearl barley. The diets, numbered 1 to 4, were prepared from whole milk, either boiled water or barley water, and a proprietary preparation which contained maltose, dextrin, and salt (sodium chloride); their respective formulæ were:

DIET No. 1.—Milk 1 volume, boiled water 2 volumes, maltose-dextrin-salt preparation 5 per cent. by weight.

DIET No. 2.—Milk 1 volume, boiled water 1 volume, maltose-dextrin-salt preparation 5 per cent. by weight.

DIET No. 3.—Milk 2 volumes, barley water 1 volume, maltose-dextrin-salt preparation 4 per cent. by weight.

DIET No. 4.—Milk 3 volumes, barley water 1 volume, maltose-dextrin-salt preparation 4 per cent. by weight.

*Total solids* and *water* were determined by drying a sample, contained in a porcelain dish, in an oven at a temperature of 100°C. until the weight became constant. The *ash* was then determined by heating the dish containing the solids in a muffle furnace at a low red heat until a white ash was obtained. The *fat* content of the liquids was determined by extraction with ethyl ether and petroleum ether in the Roesse-Gottlieb-Röhrig apparatus; the fat content of solids was determined by extraction with ethyl ether in the Soxhlet apparatus. *Total nitrogen* was determined by the Gunning modification of the Kjeldahl method, using a tiny fragment of cupric sulphate as a catalyst in the digestion. *Protein* was calculated from the total nitrogen; the factor 6.38 was used for milk products and for the diets containing milk; the factor 6.25 for the other foods. The *nitrogen-free extract* or *carbohydrates* was obtained by difference; the per cents. of water, ash, fat, and protein were added together; their sum was subtracted from 100; and the remainder was the per cent. of nitrogen-free extract. As thus determined, the fat was synonymous with the "ether extract" or "crude fat," and the protein with the "crude protein" of the food chemist.

Cellulose or crude fiber was not present in either the barley water or the diets prepared with the latter. A sample of the barley water was mixed with 95 per cent. alcohol until precipitation was complete. The precipitate was collected on a linen filter cloth, such as is used in the determination of crude fiber, and was rendered free from fat by extraction with ethyl ether in a Soxhlet apparatus. The residue dissolved completely when boiled with 1.25 per cent. sulphuric acid for 30 minutes. Therefore, cellulose was not present. Similar results were obtained with diets No. 3 and No. 4.

The chemical composition of each food or diet and its caloric value per 100 grams are given in the table. The *nutritive ratio* has also been calculated for certain of the foods and diets with the following results: Whole milk 1:4.63; top milk 1:17.14; whey and cream 1:9.18; No. 1 diet 1:6.22; No. 2 diet 1:5.97; No. 3 diet 1:7.77; No. 4 diet 1:9.78.



CHEMICAL COMPOSITION OF THE FOODS USED IN THE CHILDREN'S HOMOEOPATHIC  
HOSPITAL OF PHILADELPHIA.

Food	Total solids	Water	Ash	Fat	Total nitrogen	Protein	Nitrogen free extract	Calories per 100 grams	Analyst
Whole milk .....	13.26	86.74	0.73	4.08	0.491	3.13	5.32	72.6	M. Yankowicz
Top milk .....	16.56	83.44	0.53	7.20	0.217	1.38	7.45	103.2	T. J. Vischer
Whey and cream .....	14.16	85.84	0.56	7.12	0.346	2.21	4.27	92.8	C. W. Waring
Broth .....	1.82	98.18	0.61	0.03	0.134	0.84	0.34	5.1	W. D. Richards
Barley water .....	0.84	99.16	0.08	0.10	0.0128	0.08	0.58	3.6	H. R. Waring
Maltose, dextrin, and sodium chloride (Proprietary) .....	95.71	4.29	2.46	0.11	0.148	0.93	92.21	382.9	E. L. Waugh
Diet No. 1 .....	7.66	92.34	0.34	1.54	0.201	1.28	4.50	38.0	E. Campbell
Diet No. 2 .....	11.70	88.30	0.55	2.07	0.309	1.97	7.11	56.5	T. E. Camper
Diet No. 3 .....	11.47	88.53	0.57	2.50	0.251	1.60	6.80	57.7	R. R. Gates
Diet No. 4 .....	12.23	87.77	0.62	2.70	0.218	1.39	7.52	61.6	H. G. Guyler

**ADDRESS OF THE PRESIDENT OF THE NEW JERSEY STATE HOMŒOPATHIC MEDICAL SOCIETY**

A. W. BELTING, M.D., NEWTON, N. J.

*Officers, Members, Visitors and Invited Guests of the New Jersey State Homœopathic Medical Society:*

Your President desires to gratefully acknowledge the honor you have bestowed upon him in having elected him your executive; and sincerely hopes the first half of his administration has met with your entire approval, and that the remaining half will prove equally satisfactory.

No other president has had better support from his society than has your executive, and it is his pleasure to herewith acknowledge his appreciation to each one of you for your splendid co-operation in making this convention the success it has proved to be.

The New Jersey State Homœopathic Medical Society is exceptionally fortunate in having had the best speakers obtainable in the medical fraternity, and to each of these we extend our sincere thanks and appreciation for their valuable contribution to our programme.

Grateful acknowledgment is made for the generous hospitality extended our society by each organization and individual who so unsparingly gave of their time and effort in our behalf.

When deciding to hold this convention in Trenton, it was jokingly said that it was thought Trenton should have an opportunity to redeem itself; and I am sure she has outdone herself in giving us such a wonderful reception, and again we are grateful.

Owing to the constant claims upon his time in the many details of this convention there has not been an opportunity for the production of a formal essay or scientific contribution by your president, so that it is hoped you will accept this offering as a sort of letter to your society, mentioning some of the things that are vital to the best interests of this body.

Gentlemen, the New Jersey State Homœopathic Medical Society has awakened to both its privileges and its opportunities, as is evidenced by this magnificent assemblage of professional men, due to that wonderful infectious quality—enthus-

iasm; and I mention it not by way of egotism but rather in gratitude.

Nor is this enthusiasm confined to the profession alone, but is distributed to the nursing profession; to the laymen and to the public press as well.

Your programme bespeaks the interest held by eighty-one physicians who have given of their time and talents and professional attainments that this convention might be of both interest and profit to you who have come to participate in its meetings; and it is incumbent upon each of us that we give them our respectful attention and encouragement by entering into discussions of their papers.

Also our speakers have traveled far to deliver to us their message for our professional edification and profit, and to them are we greatly indebted; just as a big man attracts a large audience so in turn a large audience attracts the big speaker, so let us work in reciprocity.

Your president is not of that kind who believe in the infrequent convention but rather of that sort who believes in the frequent convening of medical men.

To illustrate. Last May we held our regular annual convention with its usual results of attendance and accomplishments; then five months later we again convened with an attendance three or four times as large, with a programme four times the number of pages, and with twelve more exhibitors.

Two public audiences totalling fifteen hundred persons, greeted our professional speakers; several applications were received as a result of our public addresses on medical education as a profession and training in nursing as a life work, which proves beyond doubt that even two convention meetings a year is profitable.

Right here your president wants to state that it is his hope that the Tri-State Society Convention plan may prove to be possible and guarantees that when held it will so far surpass this single State Convention as to make it look like an eclipse.

Gentlemen, what we physicians really need is a closer union of our mutual interests and a more frequent meeting together that we may both give, and receive, that which is so mutually essential to our professional existence.

The Biennial Tri-State Medical Convention meets exactly this contingency. Let us all give it our serious thought.

Your president regrets to speak of that unpleasant subject—dues—but candidly, what can a State organization of less than two hundred and fifty members accomplish on a paltry three dollars a year as dues? This is even insufficient for the obtaining of an official medical publication—which leads me to the subject of literature. Medical literature of the homœopathic variety is fast becoming a lost art or extinct. And this is a very serious matter on analysis, for just as the public school requires its text books so does our homœopathic school need its scientific works and essays, and it is distinctly up to you and to me to correct this need. Just as a man is known by the company he keeps, so is the medical man known by the literature he reads and writes. Read and write and the arithmetic will take care of itself.

We have, in seclusion in our profession and school, most capable authors, essayists and writers of scientific subjects; and no better confirmation of this statement is needed than the reference to that most creditable scientific exposition given by the West Jersey County Society in their symposium on "Diseases of the Gall Bladder." This effort, together with **many** others offered to our convention are quite worthy of wide publication.

Fellow members, let us see to it that our dues are commensurate with our opportunities and our obligations as a State Medical Society, and also let us bestir ourselves from our lethargy to activity along the line of homœopathic literature. Remember, we are organized into a State body for the advancement of medical science, and not alone for the protection of our legal rights.

Our society could well afford to congratulate our fellows, Drs. Palen and Clay, in the production of their recent book on "The Practitioner's Otology," and at the same time compliment ourselves for such versatility in our beloved school. This worthy treatise should serve as an encouragement for others to emulate, to the end that our libraries might be full of such creditable homœopathic writings.

Along this line of literature let me speak of "letters." Why should it not be possible for our society to provide for the conferring of a degree of letters upon the author of the best scientific paper produced at a given State Medical Convention, and thus create **greater** carefulness, **wider** range of thought and increased collateral reading for the production of

such an essay, thereby enhancing the interest in the scientific programme as well as improving the mentality of the author. Will you kindly give this subject and suggestion your serious consideration?

Just as it is necessary that we become distinctive in our literature so is it necessary that we become equally so in our professional every-day life, which leads me to the subject of the closed homœopathic hospital.

It is my opinion that our institutions of treatment should be as distinctly homœopathic as are our institutions of homœopathic teaching, which I think you will agree is a reasonable comparison.

The closed homœopathic hospital is the better able to follow up its cases along homœopathic lines, to keep accurate data, and furnish comparisons with other institutions not homœopathic, as well as to improve its respective staffs in their special lines along homœopathic treatment.

This plan will not only strengthen the individual homœopathic physician but the homœopathic hospital as well, to say nothing of the homœopathic training of our nurses, which is an important factor.

To make this plan ideal the boards of managers of our homœopathic institutions should be composed of those individuals who are loyal homœopaths themselves.

Observe, if you will, the care in the selection of our bank directors; how necessary it is that they should be in entire sympathy with the institution they are selected to govern,—even being required to hold considerable stock in the individual institution.

When our homœopathic hospitals are governed by men and women who are themselves believers in homœopathy and its teachings; then will we have no difficulty in obtaining those things so essential to our professional life and growth.

We should *teach* that *which* we *believe*.

We should *believe* that *which* we *teach*.

We should *practice* that *which* we *preach*.

We should *preach* that *which* we *practice*.

In a word we *should be consistent*.

The life extension plan, attracting so much attention at this time, and being received so generally by many of our patients, might cause us to pause for a time to reflect upon its advantages. Might not we in our homœopathic hospitals per-



form our service to the public in a similar manner? In having each patient given the opportunity of thorough examination in each department for diagnosis and suggestive treatment and finally the application of the homœopathic remedy, and thus meet all the physical effect obtained by this life extension plan, as well as confirm our declaration of the unfailing scientific law of cure by the homœopathic principle?

An indirect effect of the application of this plan in our hospitals would be to eliminate the varied clinics that are scattered about our cities and towns, as are evidenced in

The Prenatal Clinic,  
The Child Hygiene Clinic,  
The Tubercular Clinic,  
Infant Feeding Stations,  
The Urologic Clinics,  
The Orthopædic Clinics,  
The Rehabilitation Clinics, etc.

Would it not serve better to have all these clinics housed under the protecting dome of our modern hospitals? What is the real cause for this condition, I ask? In closing let me urge that we bestir ourselves from medical stasis to action.

From Mediocrity to the Superior.

From Followers to Leaders.

And may we place our professional characters upon that tripod of *Faith*, in the homœopathic principle; of *Hope*, for the reasonable results; of *Charity*, towards all. I thank you.

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#### QUESTIONS AND ANSWERS CONCERNING VERTIGO OF INTEREST TO THE GENERAL PRACTITIONER

WILLIAM G. SHEMELEY, JR., M.D., PHILADELPHIA, PA.

(Read before New Jersey State Homœopathic Medical Society, Trenton, N. J.,  
October 13, 1921.)

VERTIGO and its treatment is frequently a source of considerable trouble to the physician unless he has some knowledge of the more common causes that produce the condition. Every physician should realize that patients suffering from vertigo need to be subjected to the most careful examination in order to ascertain the underlying cause, and that the

condition should not be lightly diagnosed as "liver trouble," "dyspepsia," "nervous indigestion," etc.

With this thought in mind the writer has attempted to cull out and present the more important questions from a long list of those that have been asked from time to time by post-graduate students and physicians in general practice.

*Question.*—What condition is understood by the term vertigo?

*Answer.*—A definition that fulfills all requirements satisfactorily is not easy to give. The best perhaps is that given by Dr. G. W. Mackenzie: "Vertigo is that feeling of confusion which results from contradictory perceptions of our position or motion in space."

*Question.*—How may it be produced?

*Answer.*—Vertigo may be produced by any pathological condition located in one of the organs of orientation that prompts it to render false perceptions of our position or motion in space, thereby contradicting the remaining ones which continue to give us true perceptions.

*Question.*—What is understood by the organs of orientation?

*Answer.*—The organs of orientation referred to are the eyes, the ears (referring to the semicircular canals and the sacculus and utriculus in the vestibule of the inner ear), and the joints, muscles and viscera.

*Question.*—Is vertigo accompanied by any other phenomena?

*Answer.*—Vertigo is frequently accompanied by pallor of the face, clammy skin, nausea and vomiting, but should not be confounded with these since they are accompanying reflexes but not vertigo.

*Question.*—How may disturbances of the muscles and joints produce vertigo?

*Answer.*—The normal individual has the various muscles so coordinated that he can stand erect without swaying, walk without wobbling, and do these as well in the dark as in the light. If the nerve pathways for these sensations are interrupted, either completely or incompletely, there occurs a disturbance of the sense of orientation. As long as the patient's eyes remain open there is but little difficulty, but when he closes his eyes he shuts off a second organ of orientation, the gait becomes staggering and he may actually fall. This condition is familiar in *tabes dorsalis*.

*Question.*—Is it possible to produce vertigo of muscle and joint origin experimentally?

*Answer.*—If a cap to which is attached a few feet of cord, at the distal end of which is fastened a weight, is placed on the head of a normal person, and the weight is revolved rapidly about the head for a half minute or more and then removed, the subject of the experiment will experience a sense of levitation together with the feeling of tortional motion of the body in the direction opposite to that taken by the weight. Since this sensation is a false perception contrary to facts, vertigo of the kinesthetic form has been produced.

*Question.*—How may the eyes produce vertigo?

*Answer.*—When a person first begins to wear bifocals he frequently experiences vertigo, more especially if the glasses are poorly adjusted, producing a diplopia, in which event, because of the poor adjustment, one eye correction is distant while the other is near. Vertigo may be produced by placing an excessively plus glass before one eye. The magnification produces the effect of nearness, the blurring of outlines the contrary effect of distance.

*Question.*—Does the vertigo produced by paralysis of one or more of the extraocular muscles differ from that produced by paresis of the same muscles?

*Answer.*—Vertigo produced by paralysis of one or more of the extraocular muscles disappears as soon as the patient learns to suppress the false image of the squinting eye. In paresis of the extraocular muscles the vertigo thus produced tends to remain more or less constant. Since the diplopia is shifting in degree the best the patient can do to aid in overcoming this vertigo is to turn his head toward the paretic muscle. The eyes being turned in the opposite direction tend to limit the production of diplopia.

*Question.*—Does the amount of vertigo produced by paresis of the extraocular muscles bear any relation to the muscle affected?

*Answer.*—Paresis of vertically acting muscles produces a greater degree of vertigo than paresis of those acting horizontally. It is possible that the oblique muscles produce the most severe type, although this is still uncertain because of lack of sufficient study.

*Question.*—What type of vertigo is the most common?

*Answer.*—The aural type of vertigo is by far the most frequent and presents certain definite characteristics.

*Question.*—What characteristics are possessed by the aural type of vertigo that are not found in those from other causes?

*Answer.*—Aural vertigo is always associated with nystagmus of a definite kind, *i. e.*, it is rhythmic, and is in a certain direction, depending upon what part of the semicircular canals is affected.

*Question.*—What should one understand by the term nystagmus?

*Answer.*—Nystagmus is an involuntary to and fro movement of the eyes. If the movements occur with equal rapidity it is spoken of as oscillatory or undulatory. This type is found in paresis or paralysis of extraocular muscles. If the movements occur with unequal rapidity (a quick movement with a slow return) it is spoken of as rhythmic, and usually accompanies diseases attacking the vestibular apparatus and the auditory nerve. The direction is designated according to the direction of the quicker component.

*Question.*—Does rhythmic nystagmus occur in definite planes?

*Answer.*—Rhythmic nystagmus occurs in any one of the three planes: horizontal, frontal (rotary) or sagittal (vertical).

*Question.*—Is it possible by exercise of the will to control nystagmus?

*Answer.*—By strong concentration of thought it is possible for one to inhibit oscillatory nystagmus so far as the frequency and length of the excursions are concerned. This power of inhibition is brief, lasting but a few seconds at the most. On the other hand it is not possible to inhibit rhythmic nystagmus when of aural origin.

*Question.*—Does oscillatory nystagmus ever occur in any condition other than that produced by ocular disease?

*Answer.*—So far as our present knowledge is concerned, oscillatory nystagmus is always of ocular origin.

*Question.*—Does rhythmic nystagmus of aural origin ever increase in intensity?

*Answer.*—When the patient looks toward his nystagmus, since the intensity of the nystagmus now equals the sum of the already existing nystagmus, plus the pull of the muscles tending to produce a physiological nystagmus, the nystagmus is increased. On the other hand, if the patient looks in the direc-

tion away from his nystagmus, if the pull of the muscles tending to produce a physiological nystagmus in that direction (which is the opposite to the existing nystagmus) is less than the existing nystagmus, the nystagmus will be diminished; if the pull of the physiological nystagmus is equal to the existing nystagmus, the nystagmus will cease. If the physiological nystagmus is greater than the existing nystagmus then the direction of the pathologic nystagmus will change to the opposite side.

*Question.*—What bearing does these facts have upon the data found in the study of any case of vertigo?

*Answer.*—Unless these factors are known and due consideration given to them, while conducting the various tests necessary in the examination of a case of vertigo, erroneous data will be obtained and false deductions will be made.

*Question.*—What tests may be employed in testing patients with vertigo of aural origin?

*Answer.*—The caloric test, the turning tests and the galvanic test. The caloric test is only of use in determining whether or not the semicircular canals are functioning. The turning tests aid in localizing the pathological process in the vestibular apparatus. The galvanic test points out the degree of affection of the vestibular apparatus and gives the added information of the condition of the auditory nerve itself.

*Question.*—What is meant by the caloric test?

*Answer.*—The caloric test refers to the reaction produced in an individual by syringing the ear with water that is either greater or less than body temperature. The various results produced by this method are:

1. With head erect, cold water syringed into the left ear produces a rotary nystagmus to the right side.
2. With head erect, hot water syringed into the left ear produces a rotary nystagmus to the left side.
3. With head inverted (vertex to the floor) cold water syringed into the left ear produces a rotary nystagmus to the left side.
4. With head inverted (vertex to the floor) hot water syringed into the left ear produces a rotary nystagmus to the right side.
5. With head inclined to the left, so that a line uniting



the eyes stands vertically, cold water syringed into the right ear produces a horizontal nystagmus to the right.

6. With head inclined to the right, cold water syringed into the left ear produces a horizontal nystagmus to the left.

7. With head inclined to the right, cold water syringed into the right ear produces a horizontal nystagmus to the left.

8. With head inclined to the left, cold water syringed into the left ear produces a horizontal nystagmus to the right.

9. With head inclined to the left, warm water syringed into the right ear produces a horizontal nystagmus to the left.

10. With the head inclined to the left, warm water syringed into the left ear produces a horizontal nystagmus to the left.

11. With head inclined to the right, warm water syringed into the left ear produces a horizontal nystagmus to the right.

12. With head inclined to the right, warm water syringed into the right ear produces a horizontal nystagmus to the right.

*Question.*—What information may be elicited from the "Turning Tests"?

*Answer.*—The increased duration of after-turning nystagmus, when such increase exceeds eight seconds or more, suggests an irritative lesion on that side and in that portion of the vestibular apparatus of the side to which the nystagmus is directed. Diminished after-turning nystagmus, when such diminution is greater than five seconds, speaks for a partial loss of function of the labyrinth that later will become complete, due to a chronic plastic inflammation. One should remember that the normal duration of after-turning nystagmus is 24 seconds, making 48 seconds as the sum of the two sides. Of the 24 seconds for each side, approximately two-thirds represents the actual number of seconds of after-turning nystagmus for the side under examination, while the one-third equals the number of seconds of after-turning nystagmus resulting from the motion of the endolymph in the semi-circular canals of the opposite side. Since it is impossible to place the head in such a position that the turning reaction will only affect the semi-circular canal of one side, one must bear this fact in mind in interpreting the findings obtained.

*Question.*—Has the galvanic reaction any advantage over the caloric test and the turning tests?

*Answer.*—There are practically no bad after-effects to the galvanic test; and since many people consider the use of electricity as a form of treatment, it becomes much easier to make the galvanic tests repeatedly than in the case of either the caloric or the turning tests.

Of course, there are a few cases where all three tests must be employed, but here the destructive process is so far advanced that the attending unpleasant phenomena are negligible.

In closing, the writer desires to call attention to a point of technique in making the caloric test that was first observed by G. W. Mackenzie, of Philadelphia. With the head inclined obliquely to the left, cold water syringed into the right ear will produce a horizontal nystagmus to the right side combined with a moderate degree of rotary nystagmus to the left. Since in syringing the ear through the Hartmann canula it is natural to incline the head somewhat away from the operator, this reaction is mentioned for the purpose of avoiding confusion to anyone who may see it. If the head is brought to the erect position the nystagmus becomes the typical rotary nystagmus to the opposite side.

1831 Chestnut Street.

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### FEEDING OF INFANTS AND CHILDREN

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Pediatrician, Newark Beth Israel Hospital

(Read by Invitation, October 13, 1921, Stacy-Trent Annual Meeting, N. J. State Homœopathic Society.)

THE subject of the care and feeding of infants is divided for the purpose of presentation into four phases, viz.: First, that of maternal nursing; second, weaning; third, artificial feeding of infants; and fourth, feeding of older children.

*Maternal Nursing.*—Maternal nursing is not merely one method of feeding an infant—it is the only right way. Even if infants thrived as well and did not die in greater numbers in the summer on bottle-feeding, maternal nursing would still be the only right way to feed an infant. And I use the word “right” in the moral sense, if we understand by right—working in the ways of nature, “following in the ways of the Lord.”

The milk of the mother has been especially adapted to

its young. The milk of each species is different and has been adjusted to its young more particularly in the percentage of proteid it contains and the character of the curd it produces. A study of the milk of different animals and their young brings to light many interesting facts that are more than coincidences. The longer the infancy of the species the smaller is the percentage of the proteid and the finer the curd in the milk of the mother.

The lowest percentage of proteid and the finest curd is found in human milk, where the infancy of the young is the longest. Cow's milk has more than twice the percentage of proteid and produces a tough curd. The infancy of the calf is about three weeks.

The milk of the dog contains 9.9 proteid and its young reaches puberty in six to eight months. The milk of the cow contains 3.5 proteid and its young reaches puberty in eight to twelve months. The milk of the mare contains 1.8 proteid and its young reaches puberty in eighteen months. The ass' milk contains 2.1 proteid and its young reaches puberty in eighteen months, while the milk of the human contains 1.5 proteid and its young does not reach puberty until 14 years.

The curd is directly related to the type of stomach its young develops. In the lower animals the stomach represents from 60 to 80 per cent. of the digestive tract, while in the human it represents but 20 per cent. In the animals, with the large and tough stomach, the curd is hard, tough and gelatinous, while in the human, where there is a small, fine stomach and it represents but 20 per cent. of the digestive tract, the curd is fine and flocculent.

If we limit our comparison to the calf we find that at the end of the third week it is required to digest grass and hay, while the human infant does not subsist on other food than milk till about one year, and then only on selected and cooked food. The gastro-intestinal tracts must develop differently accordingly and the tough curd of cow's milk serves the very purpose of developing a large multilocular stomach with a strong musculature. Furthermore, cow's milk contains the elements necessary for the development of a calf and no more. The nervous system and especially the brain undergoes practically its whole growth and development in three weeks. At that time the calf has acquired all the complex associations of ideas it requires successfully to adjust itself to its environ-

ment. Phosphorus and lecithin, important elements in the human nervous system, are not required by the calf and they are absent in cow's milk.

From a biological standpoint it is also clear that cow's milk is no substitute for mother's milk. Immune bodies and enzymes undoubtedly are secreted by the breast that add to the infant's resistance and development, but are not secreted by cow's milk. Cows do not have measles and their blood does not contain and cannot transmit immune bodies against this disease.

In addition to these chemical, biological and developmental differences in the milks of different species I wish to direct your attention to a relationship that has appealed to me as the most impressive fact in maternal nursing.

It has been pointed out by students of the history of civilization that those species, those peoples or races and indeed even those families, have advanced furthest in the scale of civilization whose young have had the longest infancy. Infancy in this sense means dependency—period when through close and intimate contact with the parent the young have a chance to acquire all the adjustments to environment that have enabled the species to survive, to conquer, to develop. The young are then able to go out into the world and adjust themselves more easily to their environment, to acquire new associations and reactions and build up a new civilization.

Maternal nursing, to my mind, insures this dependency and compels this intimate parental contact during the important first year. In certain animals like the *Simia Rhesus*, the Ant-Eater and especially the Kangaroo, whose social proclivities are well known, nature seems to have safe-guarded the young by attaching them at birth to the nipple of the mother.

How often have we wished nature had done as much for the babies of some selfish, self-centered, pleasure-seeking women! The frequent intimate contact required by maternal nursing develops mother and infant. Neither the infant nor the fetus is a parasite, as some women and advanced sociologists seem to think. It is true it takes nourishment from the mother, but it gives in return a development of the body, of the mind and of the character of the mother that easily compensates for any fatigue, labor or discomfort. Pregnancy and motherhood is a symbiosis, not a state of parasitism. A better appreciation of the place maternal nursing occupies in the

development of the individual and the race may give doctors a greater reverence for nature's methods.

Successful maternal nursing depends largely on faith—faith of the doctor in the ability of all mothers to nurse; faith of the mother in her ability to nurse. It is influenced by a proper regime and nursing technique. Regular three hour intervals during the day and a four hour interval at night permit digestion of the milk, a vigorous appetite, complete emptying of the breasts, and sufficient time for the mother to attend to her duties, a few simple pleasures and to obtain rest.

The diet is of secondary importance. It should be simple, rational and not excessive. Every mother should attempt to nurse her infant and a doctor should never decide that a woman cannot nurse successfully without making a thorough trial for at least three weeks, and a consultation may be as important as in appendicitis.

There are no contra-indications *per se* to maternal nursing. No matter what sickness or conditions the mother may be suffering from, the only real test is the effect on mother and infant. Even tuberculosis in the mother should only be considered a contra-indication if nursing injures the mother or there is obvious danger of infection, and then only if the baby is removed from the mother; if the baby is to remain in the mother's care she may as well nurse as the chance of infection is just as great if it nurses or not, while if it is weaned the baby is deprived of the resistance and immunity that may come from breast feeding.

As more babies become breast-fed, which will surely occur as soon as doctors realize that cow's milk cannot replace and should not be substituted for mother's milk, a proper method of weaning infants without discomfort to mother or baby must be more generally applied.

*Weaning.*—Weaning should be a gradual process during which time the baby is transferred first from mother's milk to cow's milk. It is often found easier to transfer to soft food, but if the baby is not transferred first to cow's milk it is often difficult to get the baby to take sufficient milk.

Generally, babies should be weaned between 9 and 12 months, as it is frequently found that mother's milk does not supply sufficient salts at this age to meet the requirements of growth. In the colored race this condition is frequently observed at six months, and as it varies with different mothers

and babies it is important to emphasize that breast-fed babies should be carefully watched, weighed and examined from the fifth month on as well as during the first months. I have frequently noted that a baby that has been thriving on the breast very suddenly runs down at about six months and shows signs of rickets.

For this reason we frequently introduce one bottle at three months which can act as relief bottle to enable the mother to spend an afternoon or evening away from the baby and also will introduce elements that may be lacking in breast milk.

The formula should be weak and the quantity small—1 ounce of whole milk with two ounces of boiled water without sugar is sufficient at the beginning. I like to give this formula at the 9 o'clock feeding in the beginning so the mother may observe its effect during the day. Usually there is no need to add any further bottle till the seventh or eighth months, although this will be somewhat determined by the age at which we intend to wean.

There is no absolute age for weaning; while babies should usually be weaned before one year the intelligence and dependability of the mother, the condition of the infant, its progress and the season must be considered.

I prefer to wean a baby before the summer if I think it cannot be nursed throughout that season for the reason that if the bottle feeding is well established and properly adjusted the baby thrives better than if it is carried through the summer on inadequate breast milk.

Weaning should cover at least a period of one month, and preferably of several months. On the other hand maternal nursing should be discontinued rapidly after it has been reduced to two nursings in 24 hours as the milk quickly deteriorates.

If weaning is begun at about the eighth or ninth month the proper strength and quantity of the milk in a single bottle should be established before additional bottles are added; after this has been adjusted to the needs and capacity of the infant it is simple to replace nursings by additional bottles, usually at the rate of one per week.

Sudden weaning is dangerous to the infant and cruel to the mother.

There is no excuse for caked breasts or breast abscesses where the gradual method is used, while with the instantaneous

method not only the baby and mother become upset, but I have seen the whole family excited over the baby's refusal to take the bottle, the mother suffering agony in mind and body and the doctor quite at a loss over the baby's obstinacy.

*Artificial Feeding.*—In considering the artificial feeding of infants I wish to emphasize that it is not as difficult nor need it be as intricate as certain mathematicians, chemists, metabolists, physiologists, and biologists, all finding expression at times through certain learned pediatricians, would make us believe.

The vast majority of infants will develop and grow normally if fed on one and one-half ounces of whole milk per pound of body weight plus one ounce of sugar per day—provided they are properly cared for, managed and fed at regular three hour intervals.

Before starting a baby who has had difficulty in digesting milk it is advisable to clear out the gastro-intestinal tract with 2 teaspoons of castor oil and a high enema of one pint of water and to give the stomach a rest for from 6 to 12 hours.

The formula for the first week should be based on one ounce of whole milk per pound of body weight plus one ounce of sugar in 24 hours, a little less than it requires and wants. If at the end of the first week the baby cries lustily, does not vomit, and does not have any diarrhoea, the strength of the milk can be increased to the amount required for growth— $1\frac{1}{2}$  ounces per pound of body weight.

The most difficult feeding cases usually present vomiting as the most prominent symptom. The same method of starting with one ounce of milk per pound of body weight and then increasing to one and one-half ounces per pound of body weight plus one ounce of sugar in 24 hours can be followed, but instead of using whole milk, skimmed milk should be used, which is obtained by removing from a standing quart bottle the top 16 or 20 ounces.

When the vomiting stops every second day a little less can be removed from the top of the bottle so that gradually the milk again becomes whole milk.

If this method is intelligently applied, always remembering that a thin, long crying baby requires a greater number of calories per pound than a fat phlegmatic infant—for, of course, Jacobi's statement that one requires two things to feed a baby properly—milk and brains, still holds true—the vast majority of infants will gain and grow.



While percentages do not enter into the calculations for these formulas, I try to keep the proportion of milk to water one to two under three months, one-half and one-half at about six months, and two to one at about nine months, and reach whole milk at about one year. The quantity in each feeding is usually one ounce more than the age in months, except during the first three months when it frequently is two ounces more.

The number of feedings is seven per day from birth, six usually at six months, five at ten months, and four at one year.

The interval is three hours from birth during the day and four hours at night, at six months the 2 A. M. feeding can be omitted and at ten months usually the 10 P. M. feeding. The best hours are 6-9-12-3 and 6 through the day and 10 and 2 during the night.

When the four hour interval is used the best hours are 6-10-2-6.

This method is so simple and yet so successful, so easily adjusted to the metabolic and digestive requirements of each infant that when a baby does not thrive after it has been properly followed out one should consider the existence of a pathological condition like syphilis, hypertonia or pyloric-stenosis.

*Feeding of Older Children.*—Many a child that has been properly fed in the first year and reached its first birthday in good health, in the course of the next few years loses in nutrition and resistance largely because mothers are at a loss what, how and when to feed their infants and experience great difficulty in obtaining definite instructions from their physicians. The importance of this period—the pre-school age—cannot be over-estimated. Not only the child's health and resistance are determined in this period, but its habits and prejudices are established, which often makes it exceedingly difficult properly to nourish the child at any time. The malnutrition of the school child, its tendency to spinal curvature, flabby muscles or myocardial changes are very frequently the result of poor nutrition in the early years of life. During this period it is the family physician who must instruct the mother definitely how, when and what to feed her child, for in the vast majority of families no other physician will have the opportunity. In order to make information on feeding available to the family physician in such form that he can easily transmit it, I have prepared a schedule for the feeding of young children

which divides the child into six feeding ages. During the first age, up to nine months, the child should receive milk; from nine to twelve months, bread, zwieback, toast and fruit juices should be added; 12 to 15 months, cereal and thickened soups; 15 to 18 months, green vegetables and potatoes; 18 months, egg and at two years, meat.

I know there has been a tendency in recent years to introduce new articles of diet during the first year, more rapidly than in this diet. This has resulted partly from imitation of German methods and partly from the desire to supply all the substances now emphasized in nutrition as vitamins, amino-acids, anti-scorbutics, etc. In preparing diet lists I have very carefully estimated the quantity and kinds of food from an energy and tissue replacement requirement and have become impressed with the fact that it is almost impossible to under-feed a young child; that there is more malnutrition from over-feeding than from under-feeding. Morse has recently emphasized this viewpoint by making clear that children obtain more salts and vitamins than they are said to require when they are fed along old conservative methods of introducing new articles of food slowly and gradually and even where the quantity is carefully restricted.

For convenience of instructing mothers I have prepared these diets in two forms. One presenting sample menus; the other indicating what class of foods should be introduced at the various ages. If we succeed in establishing, during the first two years, proper habits of eating and accustom the child to the right kinds of food, we need have very little concern about their nutrition in the later years.

In medicine as in art those methods are the best methods that can most easily be presented and more easily followed. I hope that my presentation of the subject will assist in the popularization of our knowledge of maternal nursing, infant feeding, and general dietetics, and that I shall be pardoned for presenting to you material that has little that is new to recommend it. Let us remember that while we are scientists interested in a complete understanding of the intricacies of nature that we also are doctors, who, from the very meaning of their title, are supposed to teach.

**VESICAL CALCULI; REPORT OF CASE**

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(Read before the Brooklyn Hahnemannian Union.)

THE close association of calculous conditions with numerous morbid constitutional states, shows the important bearing of the subject upon medicine in general. As an illustration of this fact, I report the following case:

The patient is a man 53 years of age. He is thin, anaemic and extremely neurotic and depressed. He denies syphilis but had three attacks of gonorrhoea about twenty years ago.

His present trouble began three years ago when he noticed a frequent and constant desire to urinate, passing only a small amount at a time accompanied with pain. The urine was passed about every hour by day and almost as frequently by night. At times he passed clots of blood and mucus and occasional stoppage of the stream during micturition with a cutting pain referred to the end of the glans penis. The pain in the bladder was so intense at times that he was forced to assume the recumbent position before he was able to void his urine; indeed, on numerous occasions it was necessary for his physician to use a catheter to draw his urine. During the exacerbation of the cystitis his suffering was intense. The exhaustion due to pain, nervous irritation, disturbed sleep and urinary toxemia forced him to give up his position as a steam-boat pilot.

The urine is turbid and loaded with pus and blood.

After anaesthetizing the prostatic urethra a Thompson's searcher was introduced into the bladder and on rotating it so as to bring the point downward the instrument came in contact with a hard substance, allowing the urine to flow through the searcher. The hard mass came in contact with the searcher with a decided click and impulse. The mass was freely movable and about the size of a hen's egg.

An immediate operation was advised, to which the patient consented.

The patient being such a poor subject for operation, we deemed it wise to take the shortest route that would not necessitate a long continued anaesthesia. Knowing that the

size of the stone would not permit its removal through the perineum we did a rapid suprapubic cystotomy avoiding injuring the peritoneum by forcing it well back. On opening the bladder and introducing the finger I easily felt a stone lying in the cavity of the bladder which was readily delivered. The vesical walls showed evidences of chronic inflammation and infection. They were hypertrophied and sacculated and the mucous membrane covered with a phosphatic deposit, mucus and muco-pus. In sweeping the finger around in the cavity of the bladder a second calculus was found lodged in the post-prostatic pouch and encysted owing to the narrowness of the cul-de-sac into which the stone was firmly wedged. Opening into the deep post-prostatic pouch is not always an easy task as description would indicate, for it was with much difficulty that we were able to deliver this encysted mass. The calculi weighed 440 grams and 17 grams, respectively.

The prostate was slightly enlarged. In irrigating the viscus through the urethra about a drachm of fine phosphatic granules were evacuated. A catheter was placed in the urethra and a small tube sutured in the supra-pubic wound for the purpose of through and through irrigation. The bladder incision was kept open for two weeks and the supra-pubic flushing carried out daily until all vesical symptoms subsided.

The patient quickly rallied from the operation and seemed to be doing well, when on the morning of the third day he became restless, thirsty and apprehensive, was sure he was going to die. A semi-comatose condition was rapidly developing. The urine was scanty and he complained of cramps in the legs and muscular twitching and great prostration. His general appearance was anything but encouraging.

Cuprum arsen. was prescribed and was administered every two hours. Within three hours after the first dose of this remedy the urine was increased in quantity, the muscular twitching and cramp subsided and his whole condition steadily improved, until the fifth day when convalescence continued uneventfully to the time of his discharge, which was twenty-six days after operation.

Cuprum arsen. possesses a most remarkable influence over uremic symptoms as we have frequently determined in cases following operations on the genito-urinary organs. Abundant clinical evidence leaves no doubt as to the value of medication in the after treatment of these cases and we consider that the

intelligent appreciation of, and attention to it, is not less essential to success than the careful performance of the operation itself.

In considering the history of this patient he presented the classical symptoms of vesical calculus and nothing else. To treat such a case as a chronic cystitis for three years and not ascertain the cause of the cystitis was an unpardonable mistake on the part of his physician and points out the importance of making a careful physical examination, even in those cases where the subjective symptoms seem trivial.

In the examination of the above case we made no attempt to use the cystoscope as his bladder was so irritable that it would only hold an ounce of fluid, which was expelled at once. Then, too, we have found that debilitated old men do not stand a cystoscopic examination well. The Thompson searcher skillfully used, will diagnose the majority of cases of stone in the bladder. The radiograph is not always reliable so we seldom resort to it.

Speaking in a general way, litholapaxy is the operation of choice where possible, but in elderly men with enlarged prostates, nephritis or pyelitis, such an operation is not to be considered.

One year after his discharge the patient reports no return of his former urinary symptoms and has resumed his occupation as a steamboat pilot.

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ROENTGEN-RAYS OR RADIUM COMBINED WITH EXCISION IN THE TREATMENT OF KELOIDS.—Pfahler has used the X-rays and radium in the treatment of keloid with very favorable results in this usually intractable and unfortunate complication. He states that keloids should be treated by radiotherapy as early as the hypertrophy of the scar can be recognized. Radiotherapy can be depended on—either the roentgen-rays or radium—for reduction of a keloid. The best results will generally be obtained when radiotherapy is combined with excision. If applied before and thoroughly after excision, a flat, soft, smooth and inconspicuous scar should be found.—*Archives of Dermatology and Syphilology*, August, 1920.

**THE MOUTH AS A FACTOR OF DISEASE**

REA PROCTOR MCGEE, D.D.S., M.D., HOMOEOPATHIC HOSPITAL,  
PITTSBURG, PA.

(Read before the Homoeopathic Medical Society of Pennsylvania, Sept. 15, 1921.)

ONE of the first principles of surgery is to remove areas of infection and to establish drainage. Wherever there is infection, toxins will be absorbed.

In the period before eighteen hundred and ninety-five, teeth with exposed pulps or abscesses were almost always extracted promptly and the mouth was usually left in a healthy condition. Since that period, the most extreme efforts have been made to retain in the mouth, teeth in every state of decomposition.

The removal of the dental pulp, and the filling of canals was, until the advent of the X-ray, considered a very exact and finished procedure. The so-called root canal surgery had ceased to be a subject of discussion, because it was believed to be eminently successful as practiced. Even in cases of acute and chronic abscesses, the old roots were retained and the most beautiful restorations were placed upon them.

In cases of pyorrhea in its later stages, there were for several years, many men who made elaborate splints to retain rows of diseased and poisonous teeth in the mouths of patients. We are now reaping the result, in our middle-aged patients, of all of the pathological conditions that arise from over-treated, improperly-treated, and injudiciously retained teeth. The re-discovery of the fact that the mouth and its tissues are an integral part of the system has called our attention to the grave consequences of focal infection in the mouth.

During the last twenty-five years, the average length of life in this country has been increased about ten years. This, of course, is due to the advancement of hygiene and to the greater skill in surgery. In this period, however, the life insurance companies report that their death rate from organic lesions of the heart, liver and kidneys has increased 28 per cent. over the previous twenty-five years.

These organic lesions are almost invariably due to sepsis and it is rather striking to note the increase of the death rate during the same period in which there has been an increase

in the retention of septic teeth, and another big thing in the statistics is the fact that it is the better classes and the thinking classes of our citizens, who take out life insurance and who have their teeth attended to.

In taking up this subject I do not wish you to understand my position as being opposed to every effort to retain the natural teeth. I believe that healthy normal teeth are among the most important of our non-vital organs; in fact, I am rather inclined to believe that the importance of the teeth places them very close to the vital organs. What I wish to call attention to, is the fact that septic teeth are just as great a menace to the human organism as healthy teeth are a benefit to that same organism.

No diagnosis of septic conditions can be complete without a thorough mouth examination. The mere removal of infected teeth will not always effect a cure. The only times that we can hope for a complete cure by the removal of teeth, is in those cases in which the disease depends wholly upon infection from the teeth and in which no secondary foci infection have been established.

Where the teeth are to be removed, because of their contribution to systemic disease—the physician must co-operate by seeing that all other foci are also removed. One foci of infection is just as bad as another, regardless of where it is found. The toxemias produced from these foci are governed by the susceptibility of the patient to the virulence of the bacteria.

The gross quantity of the infection has practically no significance.

The X-ray, if properly taken, is of great benefit in diagnosing mouth infections, but it is impossible to make a complete diagnosis from an X-ray without a physical diagnosis of the mouth. The X-ray amounts to about  $33 \frac{1}{3}$  per cent. of the diagnosis, and in many cases will clear up the uncertainty as to the condition of the root apices of teeth.

The amount of rarefied area about the apex of a dead or more properly devitalized tooth is not very important. The area of rarefaction is usually about two and one-half times greater than the area shown in the film.

The dentist who refuses to acknowledge the danger to the patient of areas of infection in the mouth, is just as benighted as a physician who refuses to acknowledge that the mouth can have any bearing in other bodily infections.

When the pulp of a tooth dies or is removed, that tooth, so far as the pulp is concerned, is done. Claims have been made that the tooth continues to receive nourishment through the periodontal membrane; but recent investigations at the University of Pennsylvania seem to prove that there is no avenue of nutrition between the cementum and the dentine. The dentine is about one-third organic tissue and two-thirds matrix of calcium salts.

This means that decomposition of the entire dentine area, which is really the true body of the tooth, results, and in this state the tooth cannot properly remain imbedded in the human body, without sooner or later causing a pathological disturbance.

The time to save the teeth is before the destructive process kills the pulp. A pulpless tooth occupies the same strategic position as a dead soldier. Its work is finished, its loss is regretted, but its usefulness is over and its retention is a menace to health.

Wherever actual infection is present, or suspected, in the human body, the dental examination should be as careful, skillful and as impartial as the examination of any other portion of the body.

Where it is necessary to remove diseased teeth, there are a number of points to consider. In all teeth except the third molars or wisdom teeth, the tooth is largely supported by the alveolar process, which is a spongy bone that comes with the tooth and disappears after its removal. The portion of the tooth extending into the true bone is not very great, so that the extraction of a healthy, normal tooth is followed by two processes: the filling in of true bone at the apical area, and the resorption of the alveolar process. In this case repair would be very rapid and practically painless, also we would have, in the process of removal, a tooth that would bend 8 per cent. of its bulk and a process that is as springy as green wood. These conditions would greatly facilitate ease of removal. A tooth that has been devitalized for one year has lost one-half of its elasticity and after ten years has lost all of its elasticity. It is very seldom, however, that such teeth are removed.

The problems of exodontia have become more complicated with the over-treatment of teeth and with our increased appreciation of the necessity for clean, thorough surgery in



extraction. In nearly all cases, the tooth itself is no longer the sole seat of pathology. The peridental membrane has been destroyed and sepsis has invaded the surrounding bony tissue, so that there is a septic osteitis, which may be complicated with bone caries or with osteomyelitis. We have also at the apex, either a granuloma, which is a septic, fibrous, hyperplasia of the peridental membrane; a circumscribed pus area that has been walled off by nature's effort at self-preservation, or we have an area of infection in the bone that has no definite limitation, and simply fades away in the picture. This last type is by far the most dangerous.

No extraction is complete without a thorough and judicious removal of the infected area, regardless of its type. The retention of the granuloma will result in a pathological attempt at repair in the alveolus of the extracted tooth, preventing the normal deposit and orderly arrangement of organic tissue and calcium salts, and will continue to destroy tissue, so long as it is allowed to remain. Merely extracting a tooth is, in some cases, sufficient, but in great numbers of other cases, it is necessary to turn up a muco-periosteal flap and dissect out large septic areas that, unless you were to see them, you would never believe existed in the mouth of a comparatively healthy individual. In cases of hypercementosis, removal of the tooth is always necessary. No case of exostosis of the tooth root has ever recovered or ever will recover, and the element of continued pressure in addition to local sepsis can only result in damage to the patient.

The day of "strong arm" methods in the removal of teeth is over and I find that many times the extraction of a difficult tooth requires just as much surgical technique and just as great skill, as the most delicate operation upon the surface of the face.

Focal infections are frequently the cause of various skin eruptions. They are many times etiological factors in the causation of epithelioma and carcinoma—and the alienists are discovering that some of the toxemias which may produce insanity are generated about the roots of teeth.

We had one case, some time ago, in our hospital in Pittsburgh of a man who had been insane for four years, who recovered his sanity after the removal of a deeply impacted upper cuspid tooth.

Where an impacted tooth approaches the surface, there

is a complicating factor, infection of the area surrounding the crown of the tooth from fluids of the mouth. These impacted teeth will frequently cause the absorption of the roots of other permanent teeth from pressure, thereby doing irreparable injury to useful dental organs and creating new foci of infection. Impacted teeth in the roof of the mouth, or wherever located, are a similar menace and should be removed; and impacted tooth removal should only be done by a skillful operator; the opportunity for irreparable injury to the jaws is very great and the after-treatment should be very carefully handled, because of the danger of extensive infection.

The penetration of the antrum of Highmore, by the roots of the upper bicuspid and molar teeth is a physiological condition, so long as the roots are perfectly healthy, but becomes pathological immediately upon the death of the pulps of any of the penetrating teeth. Necrosis of the bone surrounding the roots of the teeth results in the destruction of the antral floor and the growth of septic polypi in the maxillary sinus commonly follows antral infection from the teeth. Infection from the antrum can, of course, spread to any portion of the body and can be just as great, or a greater contributing factor to those conditions introduced by infection than any other point of bacterial growth.

The antrum is a peculiarly arranged sinus, in which all of the upper teeth, from the fourth month in embryo, until the last permanent upper tooth is erupted, reside. Here they develop from the germinal cell and make their way downward to their proper positions. This means that during the two dentitions, each antrum has been the site of the production, either in its wall or in its substance, of five temporary teeth and eight permanent teeth.

This intimate connection of the antrum to the teeth, results very frequently in dental infection and necessitates not only the removal of the offending teeth, but many times a pathologic area in their immediate vicinity. Where it is necessary to do a complete evacuation of the antrum an incision through the canine fossa is the route of choice. The appreciation of the importance of the mouth as a complicating factor in infection is in its infancy.

#### DISCUSSION

DR. E. A. KRUSEN, Norristown: The desirability of having an up-to-date dentist associated with us to the extent that

it is necessary in our work is evident. Just as the X-ray is necessary in discovering the cause of trouble in many of these cases of focal infection, as has been brought out in a number of papers to-day. This brings us back to the original doctrine of Hahnemann, "When you find the cause, remove it." We have not been saying very much to-day about the use of the homœopathic remedy. It should be used; but to get it to act well, we must have removed the foci of infection, or whatever the cause of the trouble may be.

DR. I. D. METZGER, Pittsburgh: I want to express my appreciation of the paper of Dr. McGee. My admiration for him is such that I think that we are exceedingly fortunate in our Society, as well as in our hospital in Pittsburgh, to have him as a member. At a meeting of the American Hospital Association held the other day, in West Baden, Ind., the question of dental work was referred to by one of the speakers; I found, by conference with different people, that this is becoming one of the regular departments in many hospitals. Not only that, but dental internes are brought into the hospital.

In our own State we have several hospitals which have dental internes, whose work is largely that of caring for the dental needs of patients, under the direction of the staff. More than that, such hospitals usually have a dental clinic in which work is done for school children and charity patients. This interne does much of that work. We have come to realize that obscure pathological lesions are very often a menace to the entire body, and that we are using up a great deal of our energy in trying to counteract the effect of some of those things which are sapping our strength. Eventually we become so debilitated that our physical poise actually breaks, some special disease impends and we may be carried away. Of course, the far-sighted physician is the one who anticipates all these things and conserves the energy of the patient, aims to increase his resistance and maintains a good surplus of vitality through which these dangers may be obviated. I think Dr. McGee does a great service in aiding us in our investigation of the causes of obscure functional and pathological conditions which deplete vitality.

Of course, I must speak of the eye as a source of energy-waste. A great deal of energy is spent through this organ that is unjustifiable. Many times, school teachers, stenographers and others are devitalized and unable to do their work as they should, being scarcely able to drag themselves home in

the evening on account of fatigue, all because they are overcoming some obscure eye-strain which might be obviated by the use of glasses. Critical research is pointing out numerous other causes for energy depletion. As we get a larger view of physical perfection, we are in a better position to pursue our quest for the particular things that tend to lower the vitality by reducing our energy-reserve.

I appreciate this paper as I do all the things that Dr. McGee writes. He writes to hundreds of thousands of people currently through the medium of his dental journal. I am sorry that the audience to-day is so small, but I am sure that the influence of such a paper can not be limited in its beneficial effect.

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**TREATMENT OF BRAIN TUMORS.**—Dr. Walter E. Dandy, following a clinical study of brain tumor, assisted by X-ray examination in the form of cerebral pneumography, presents the following summary and conclusions, which being rather radical and different from conceptions hitherto held, deserve more than passing consideration. 1. Brain tumors are among the most frequent neoplastic lesions; their growth is always progressive and almost always leads to a train of terrible sequelae and eventually death. 2. There is only one form of treatment for tumors of the brain—operative removal, and this must be complete. 3. To obtain the best operative results, brain tumors must be diagnosed and localized in the earliest stages. 4. It is now possible to diagnose and localize practically every tumor, and in the early stages, when all other signs and symptoms fail in the localization, cerebral pneumography will make the diagnosis and localization with precision, and without equivocation, and when a tumor is not present, it can be excluded by the same method. 5. The operative approach will be dictated by the precise localization. The approach should afford adequate room, and it should be directly over the tumor. 6. After correct localization, all brain tumors should be disclosed at operation. 7. Every effort should be made to cure the patient by complete extirpation of the growth. There is less mortality from carefully performed tumor extirpations than from unsuccessful explorations for tumors. When, for any reason, it is impossible or unjustifiable to remove the tumor, the maximum palliative relief should be given at the same operation. 8. Decompressions, routinely performed, are among the most harmful and indefensible operations in surgery. They should never be performed for unlocalizable tumors. They are the exact equivalent of giving morphin for abdominal pain; the symptoms are masked until it is too late. 9. Decompressions should be performed only as a last resort—when the tumor cannot be removed; and then only after the location of the tumor is known, for in half the cases of brain tumor, no good can possibly be derived from a decompression. 10. Exploratory craniotomies for brain tumors are now scarcely ever indicated. The tumor should be precisely localized before any operative procedure is attempted. 11. Scientific accuracy must supplant guesswork in diagnosis and in directing the treatment. Early and accurate localization and thorough operative treatment will eliminate all unnecessary and harmful operations. The treatment of brain tumors can only be a direct eradication of the cause—prompt and efficient.—*The Journal of the American Medical Association*,—December 10, 1921.

## EDITORIAL

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### THE TRUTH ABOUT YEAST THERAPY

As a therapeutic agent yeast was known in ancient times, but despite this, there is perhaps no curative measure whose popularity has waxed and waned more often than has that of yeast. By reviewing medical literature one finds that yeast comes into prominence every so often, and it further seems that its popularity depends to a great extent upon the popularity of the clinician who recommends its use. Generally, it may be said that yeast is used empirically; excessively praised only to disappoint and become discarded.

During the past few years yeast has been studied biologically, chemically and clinically, and some value has been discovered in it. This along with the convenient way in which it is marketed and some advertising, has brought it to the attention of physicians. Care must be exercised, however, to determine its sphere and limit of action so that we do not become too enthusiastic on something which, in the long run, may be detrimental to the welfare of our patients.

Any measure used empirically is used in a variety of conditions. This is the story of yeast. After all the best results of yeast therapy have been found in treating acne vulgaris, acne rosacea and furunculosis. Yeast is known to cause a leukocytosis and also when administered by mouth, either alive or dead, to have a laxative effect. Whether these properties alone, or some inherent property of the yeast itself, or the combination of any or all of these bring about the cure, is difficult to determine. The fact remains that yeast seems to be a useful adjunct in the treatment of such diseases as mentioned.

The antibiotic and symbiotic properties of yeast are also well known. Use has been made of these in fighting infections of the body surfaces and in the treatment of intestinal disturbances. Results in such cases have been varied and the measure disappointing because of the fact that commercial yeast is frequently contaminated with other microorganisms,

and in the latter instances because yeast may produce a diarrhoea and increase flatulence.

The study of "deficiency diseases" and vitamins has involved yeast with the result that it is administered by some as a "tonic." Experimentally in animals it has frequently been found that an insufficient diet for growth and proper nutrition has been made sufficient by the addition of a small percentage of yeast, with its vitamins. To apply this to humans is faulty, because the ordinary well mixed dietary of man contains all of the necessary vitamins for growth and proper nutrition. Yeast is removed from the nutritional disturbance of childhood, and growth with its cessation after a time, is something but little understood. To administer yeast as a tissue builder, in spite of its property to synthesize protein from the simplest forms of nitrogenous compounds, is poor practice. Not only may a diarrhoea be induced, but that the yeast cells do not invade the mucous membrane of the bowels is not definitely known.

While Hawk, Smith and Holder (*Amer. Jour. Physiol.*, March 1, 1919, p. 199) found yeast to improve the nitrogen balance in four of six men studied metabolically; and while yeast mixed with food was found to be a satisfactory article of diet and caused no digestive disturbances, save diarrhoea; the harm which may result from its continued use far outweighs any lasting beneficial effect it may have upon the general condition of a patient. One would not go wrong to forget yeast and remember that good food and good air are man's best health builders.

Yeast is of value in a few conditions, but must be prescribed by the physician, and not recommended to a patient to "take." Yeast is a bacterium and as such must be regarded as potentially pathogenic.

Resurrected, well advertised and kept upon a wave of enthusiasm, yeast we believe, will hold our attention for a time. But if history lives up to its reputation, yeast will sink into oblivion, perhaps to rise later to even nobler things than curing pimples, boils and constipation.

J. G. W.

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#### THE READING OF A PAPER

It is a well attested fact in any community that the number of possible foods available for physical nutrition is de-

cidedly limited. On the other hand the skill and versatility of cooks can lead to the preparation of dishes in greatest variety. Serving of the dishes and environment add to their flavor. In other words, the physical pabulum can be varied or made always new by the skill of the caterer and the cook.

As to mental pabulum, new ideas are few; old facts likewise are few, but dressed in good language and presented to us by a speaker of fluency, with good address, and the pleasure of listening to these good ideas is perennial.

The above thoughts have come to us many times as we have sat on the benches of a society meeting and listened to men of eminence read most excellent papers, in a style that would cast discredit upon a school boy. It seems strange that educated men should stand up before an audience, of whom they are in no sense afraid, and not raise their voices to a sufficient strength to be heard beyond two or three rows of benches. This criticism applies to others than to physicians; it seems to be a fault in all scientific bodies. One very important and wealthy scientific society quite recently has seen fit to appropriate a portion of its funds for the engagement of a professional reader, to whom all papers will be presented before the meeting, and who will deliver them. The experiment so far has been a pronounced success, and we are told that the members of that society consider their money very well spent indeed.

Were it impossible for members of a society to throw their voices sufficiently far to be heard we would pass the matter off as a weakness of human nature, and remain silent. As a matter of fact there is nobody who cannot, by a little preparation and care, make himself thoroughly audible over an average sized auditorium. He only requires the determination to do it, a couple of readings of his paper in the quiet of his domicile, and ere long he will learn the art. The time thus spent will repay him well, indeed, because he will see that his audience is appreciative. He will notice the look of intelligence on the benches, which is a compliment to him. His audience in turn will be pleased. If he cannot do anything else, let him select one good listener in the centre of the auditorium, and let him talk at that individual. We are sure that he will receive enough encouragement to do still better than he is doing.

Oratory, of course, is a good thing, but it is not the whole

factor. We only ask that the food for the mind shall be prepared and garnished in a way to make it appetizing. So truthful do we believe this statement, that we have no hesitation in saying that we have heard time after time addresses of the "Cross of Gold," and "Crown of Thorns" type, which have carried away their audiences for no other reasons than the excellence of delivery, and the beauty of verbiage, *while lacking absolutely in ideas*. The artistic cook can take remnants of food, put them together, make them unrecognizable, and the diner may be pleased until he has discovered that after all he has only eaten "hash." Oratory and verbiage are often well seasoned hash; they can be made pleasing. There is no reason, however, why good ideas should not be presented with at least fair oratory.

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### CONCERNING GLEANINGS

THE physician is ever anxious to acquire as much knowledge as possible, with a minimum waste of time; hence it is that lengthy papers are likely to receive scant perusal, or to be neglected altogether. Quite naturally one deplores his neglect in missing the particular point that the author tries to make. Many are the interesting papers published, so many indeed that nobody can hope to read all of them, hence there has been a laudable ambition to present abstracts for the perusal of the busy or studious man.

Forty or fifty years ago there existed two very important works that catered to the desire for abstracts, namely Braithwaite's Retrospect (English), and the Semi-Annual Compendium of Medical Sciences (Philadelphia). These attained great popularity. Medical literature becoming so vast it became necessary to present something more ambitious. Hence there came into being in turn, The Sajous Annual, Progressive Medicine, and the Year Book. Each of these ventures was distinguished by the impress of personality of the abstractor, in some cases the latter taking full liberties and making running comments on his various contributions. This we looked upon as a very important factor in abstracts. We have often said that new facts are few, that old ideas come to us with new force by reason of the personality of the author. To prepare an abstract immolating the author's personality in adding



thereto the personality of the abstractor, robs the intellectual food of its vital mental pabulum.

Among the medical journals for many years abstracts constituted a very important feature. Here again the personality of the editor and his abstractor, as well as the author of the original source were respected. In the early nineties George M. Gould started the *Philadelphia Medical Journal*, and with it a system of wholesale abstracting, which became intensely popular, although we believe it to be relatively weak as a means of education. Most of the journals copied it, apparently, to maintain their circulation. It is now a strong feature of the *Journal of the American Medical Association*. Such wholesale abstracting we do not think has the value of the selected and more carefully thought out presentations, simply because they are quantity rather than quality productions. They are sterilized mental pabulum, deprived of their vitamins.

Our opinion concerning abstracts is that they should be prepared by men conversant with the branch represented, and also men who have an intimate knowledge of what the profession needs in the way of information. To this end we believe that the old plan is manifestly the best, for we cannot accept the idea that abstracting is merely clerical work, and requires nothing more than the machine working brain of a clerk. We have adhered to this policy in *THE HAHNEMANNIAN MONTHLY*, and as far as we can recall there is but one other medical journal in the United States, namely, *The American Journal of Medical Sciences*, that still follows our policy of trained men in each department, imbued with the idea of putting personality into the selection and presentation of gleanings.

Concentrated food is good, no one would deny it, but too much of it will overtax the digestive apparatus, to say nothing of throwing an undue strain upon one's metabolism.

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#### AVITAMINOSIS IN PEDIATRICS

ONE of the first diseases to be recognized as belonging to the avitaminoses, or deficiency diseases, was Barlow's Disease, or Infantile Scurvy. This condition develops as a result of a deficiency or absence of anti-scorbutic vitamin, or vitamin C.

Since the discovery of the cause of scurvy and its prompt cure by the administration of orange juice, the effort has been made to include a number of other clinical entities under the head of avitaminoses, no doubt with the hope of duplicating the magical results which are to be observed in the vitamin treatment of scurvy.

Reasoning entirely from analogy, Funk made the suggestion that rickets was in all likelihood a deficiency disease. Following this suggestion, Mellanby (*London Lancet*, 1919) carried out his experiments in which he succeeded in producing rickets in young dogs through depriving them of fat soluble vitamin A. Hess and Unger (*Jour. Amer. Med. Asso.*, 1920), opposed the theory of avitaminosis as a cause of rickets in the human being on the grounds of not being able to improve their cases of rickets by means of a diet rich in vitamin A. Recently, however, Park and Howland (*Johns Hopkins Hospital Bull.*, 1921), have given both radiographic and clinical evidence of the uniform and consistent improvement which occurs in rickets from the administration of cod liver oil. They state that the changes in the bones which are brought about through the administration of cod liver oil amount to a complete cure, providing the diet is not too faulty. The presumption is that the curative effect of the cod liver oil depends upon the fat-soluble vitamins which it contains rather than upon the oil itself.

Other diseases are gradually being added to the list. Thus, McCarrison (*Studies in Deficiency Diseases, Oxford Medical Publications* 1921), in discussing the clinical manifestations of a long continued improper diet sees a strong analogy between the symptoms of "coeliac disease" and those produced in experimental animals. Mackay (*British Med. Jour.*, Dec., 1921), actually succeeded in duplicating the symptoms of infantile coeliac disease in kittens by means of a diet deficient in vitamin A. McCarrison also includes chronic gastrointestinal indigestion, chronic colitis, mucous disease and intestinal stasis among the diseases in which vitamin deficiency should be strongly considered as an etiological factor. The subject of the vitamins is still in its infancy and as in the case of endocrinology its students are liable to be carried away by their enthusiasm and lose their sense of proportion. However, the research and clinical work which is being done in this field should be welcomed and encouraged, and accepted for what it is worth.

C. S. R.

### THE MICHIGAN SITUATION

THERE has come to us a rumor based upon most excellent authority, that the Regents of the University of Michigan have abolished the homœopathic department after a successful career of forty-seven years. At present writing we have been unable to correlate all the facts bearing upon the situation. Stories coming to us present many aspects; viewed from one angle we have one picture, from another angle, another, and so on. For the present we will simply remark that the lesson taught us is that homœopathic medical colleges as departments of universities are now proven to be unsafe. Those whose honest ambitions have been, in the past, to seek such affiliations in the great universities of the country must have received a very rude shock at the bad news from Michigan.

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### HOMŒOPATHY, THE ENDOCRINES, AND THE INFINITESIMAL

ON page 777 of "Physiology and Biochemistry in Modern Medicine," by J. J. R. Macleod, published by the C. V. Mosby Co., of St. Louis, we find the following: "It was first noted by Moore and Purinton that the usual rise of blood pressure which followed the injection of epinephrine was replaced by a depressor effect when the dose was very small. Later it was shown that this was not an isolated instance of a reversed action of epinephrine when employed in high dilutions; the intestinal tone is augmented by minute doses (1 part in 500 million or more according to Hoskins) and the contractions of the pregnant uterus inhibited." It is paragraphs like this from absolutely disinterested sources that should have been brought to the attention of the Board of Regents in the recent fight for the preservation of the Homœopathic Department in the University of Michigan. Any one who is a half-way student of medical literature knows that there are enough of them to be found. What is more, they are increasing in frequency and importance. It has been asserted that there is nothing left of homœopathy but the name. The trend of modern science is in the direction of the spread of everything in homœopathy but the name.

## GLEANINGS

### MEDICINE

Conducted by CLARENCE BARTLETT, M.D.

AN ANALYSIS OF ONE HUNDRED AND EIGHTY-TWO CASES OF CANCER OF THE STOMACH, WITH SPECIAL REFERENCE TO THE INCIDENCE OF PREEXISTING ULCER.—Taylor and Miller after careful study of 182 cases of cancer of the stomach, offer the following conclusions: 1. A history suggestive of preexisting ulcer was obtained in only 17 per cent, and it seems probable that the true incidence of such a preceding lesion does not exceed these figures. 2. Reference of epigastric pain to the back occurred in 29 per cent of the pyloric cancers, and of those with reference of pain to the back 80 per cent had involvement of the pylorus. 3. The age incidence for the beginning of "ulcer" symptoms in the ulcer-before-cancer cases had its apex two decades later than did a series of 79 ulcer cases. This suggests either that ulcers first giving rise to symptoms in middle life have a far greater likelihood of becoming malignant than do ulcers generally or that the ulcer-before-cancer cases are really malignant from the beginning. Either of these considerations justifies and indicates prompt and radical surgical treatment of all patients first developing symptoms suggestive of ulcer after forty years of age. 4. The average free hydrochloric acid and total acidity findings in the pyloric cancers was not abnormally low (15.5 and 45), but there was evidence of definite retention. There was also retention in some of those with lesser curvature involvement. When the cancer was situated elsewhere retention did not occur, but the acid figures were distinctly low. 5. Roentgen study gave a positive diagnosis in 96.8 per cent, and in but one case was it misleading. 6. At operation the tumors were shown to be somewhat more extensive and more often to involve the lesser curvature than the roentgen ray suggested. 7. Of the patients with gastric cancer who now come to the surgeon about one-third are given a chance of cure by radical operation, one-third are treated palliatively and for one-third nothing can be done. —*American Journal of the Medical Sciences.*, December 1921.

LEAD POISONING, WITH SPECIAL REFERENCE TO POISONING FROM LEAD COSMETICS.—Barron and Habein have studied this question quite extensively and present the following conclusions: Summary. 1. Lead is the most important of the industrial poisons. 2. Women are more susceptible to lead poisoning than men; abortions, miscarriages and early deaths of the infants are common. 3. Lead is deposited in the liver, kidneys, brain and other organs. 4. Lead is eliminated principally through the urine and feces, but it may be absent in either even in the very severe forms of poisoning. 5. The kidneys in some types of lead poisoning show deposits of lime salts in degenerating tubules similar to that found in acute mercurial poisoning. 6. The lesions in the brain in cases of encephalopathia saturnina are not very prominent. The principal microscopic findings are a mild perivascular round-cell infiltration, satellitosis, neuronophagia and the occurrence around some bloodvessels of phagocytic cells containing a greenish crystalline pigment. 7. Basophilic granulation of

the erythrocytes is a striking and characteristic feature of most cases of lead poisoning. With proper staining technic this finding is of inestimable value for diagnosis, and careful routine blood studies should be made as a prophylactic measure among the workers in industries using lead. 8. Besides being an industrial poison, lead is also the source of many miscellaneous forms of poisoning, chief among which is probably that resulting from the use of lead-containing cosmetics. 9. The use of lead-containing cosmetics over a prolonged period of time may result in death. 10. A face powder known as "Flake-White" is lead carbonate ground to an impalpable powder. This powder is sold quite generally in drug stores for cosmetic purposes. 11. Mild degrees of poisoning from "Flake White" are probably widespread, but because the symptoms are often indefinite the true etiology remains undetected. Very severe cases probably also occur and remain undiagnosed. 12. The present study proves incontestably that death may occur from poisoning due to the use of "Flake White" as a cosmetic; it is very urgent, therefore, that rigid laws be enacted prohibiting the sale of any compound containing lead for cosmetic purposes.—*American Journal of the Medical Sciences*, December 1921.

**THE TREATMENT OF TRIGEMINAL NEURALGIA.**—Magnus (*Norsk Mag. for Laegevidenskaben*, June, 1921), summarizes his review of this subject in the two following statements: (1) There are only two effective methods for the treatment of trigeminal neuralgia—injections of alcohol into the branches of the nerve, and excision of the Gasserian ganglion or its pontine root; (2) peripheral resections of the nerve are obsolete because their place can be taken by the far simpler measure of alcohol injection. The author has performed peripheral resections of the nerve in 29 cases, in all of which a relapse occurred in twelve to eighteen months. He has given 248 injections of alcohol into various branches of the nerve in 118 cases, and in one of these cases the patient was free from pain for eight years. Four patients were free from pain for five years, and the average duration of freedom from pain was twelve to eighteen months. There was little difference in the effects of peripheral or more central injections. After all of the 248 injections the pain disappeared at once; 37 injections failed of their object. The author has never injected alcohol into the Gasserian ganglion, and he justifies his opposition to this procedure by references to complications, some fatal, which this method has provoked. He is far better pleased with operative removal of the Gasserian ganglion or its pontine root, and in not one of the 31 cases which he has operated on has he seen paralysis of the ocular muscles, and only in one case did transitory facial paralysis occur.—*British Medical Journal*, August 13, 1921.

**EXPERIMENTAL INOCULATION OF HUMAN THROATS WITH VIRULENT DIPHTHERIA BACILLI.**—The laboratory investigations of Guthrie, Marshall and Moes have resulted in the appended conclusions, which after all are completely confirmatory of the clinical experiences and conclusions to date. "1. Virulent diphtheria bacilli present in the throats of healthy carriers are capable of producing clinical diphtheria and do not differ from those obtained from patients with the disease. 2. Virulent diphtheria bacilli retain their characteristics despite long residence in the human throat or transfer from one human being to another. 3. The guinea-pig test is a reliable index of the inherent ability of diphtheria bacilli to cause clinical diphtheria in susceptible human beings. 4. The Shick test is a reliable index of the presence or absence

of antitoxic immunity against diphtheria. 5. Experimental diphtheria in human beings has a short incubation period, produces marked constitutional effects, and is accompanied by a sharp febrile reaction. It may be cured promptly by the early injection of antitoxin in adequate dosage."—*Johns Hopkins Hospital Bulletin, December 1921.*

### OPHTHALMOLOGY

Conducted by WILLIAM M. HILLEGAS, M.D.

**OCULAR HYGIENE:**—Robert Lockhart in the *Kentucky Medical Jour.* lays down in a practical manner some rules of hygiene as applied to the visual apparatus. 1. For any work requiring close application, work by a north light which falls over the left shoulder, and take the leisure every little while to look up and observe out door life through the windows, thus relaxing the ocular muscles and the retina.

2. Electric lights of high candle power hung in the ceiling and protected by frosted globes are the best artificial illumination.

3. Recurrent headaches, when the general health and digestion are good, always indicate some refractive error, which should be corrected by an oculist at once, not for the improvement of vision as people so frequently erroneously believe, but to relieve the ocular muscles and the visual brain centres of the constant and painful effort necessary to overcome the slight optical irregularities in the shape of their eyes.

4. In wearing colored or tinted lenses, do not buy cheap ones, get good tinted lenses from a first class optician, which are a scientific compound of first quality of crown glass and metallic oxides.

5. Eyes should always be rested or favored when one is suffering from a head cold, on account of possible sinusitis, and its occasional ocular complications.

6. Alcohol or tobacco in large daily quantities favors possible insidious optic nerve atrophy.

7. Continued loss of sleep is weakening to the eyes, and so also is prolonged weeping.

**MYOPIA IN SCHOOL CHILDREN:**—Braisted states in the *J. A.M.A.* that he has noticed that a large percentage of the text of school books is in fine print; much is set up in 6 point type. "No child of ten or under should have to study a book printed in anything smaller than 12 point lower case or 8 point capitals." He advocates that the federal government forbid the transmission through the mails of children's school books improperly printed as the solution of the problem. "Left to the example of the individual schools or to the various states, the correction of an evil of this kind will not be achieved for many years." Commenting on this, Clark (*ibid*), states that any child of myopic parentage, under six years of age, must not be taught from books at all or taught to write—such a child should chalk on a blackboard, but training with blackboards cannot be continued indefinitely. When myopia ceases to increase such patients may resume ordinary school work. However, many myopes grow progressively worse despite all care. "While the eye is soft, there should be more actual personal teaching and less near work and preparation from books." Temporary cessation of all near work for varying periods of time is suggested. In Great Britain "Myope" classes have been established to fulfill the need of those children seriously handicapped by reason of a high degree of myopia.

**SNOW BLINDNESS:**—Atkinson *Arch. of Ophthalm.*, Nov. 1921, was a member of an Antarctic expedition, and later served on the northern Russian front in the German War, and had unique opportunities for examining this condition, and can speak with authority. He describes two distinct types of snow blindness.

1. Due to exposure to excessively strong illumination, with the sun at its maximum altitude. The reflection and refraction of light from and through the surface of the ice-crystals causes an intense illumination. Exposure of the unprotected eye on such a day for fifteen minutes was sufficient to produce snow blindness with corneal and conjunctival irritation very similar to the symptoms of electric blindness, and in addition there was some hyperemia of the retina and blurring of the color vision. Under treatment this condition usually lasted forty-eight hours and recovery was complete.

2. The second type of snow blindness occurred on dull overcast days when the air was full of falling snow and ice-crystals. Under such conditions the important factor is the lack of contrast in the field of vision. The symptoms in this type are those of muscular strain due to the tiring of the ocular muscles from lack of sufficient fixation stimulus, there being so little contrast in the visual field. A diplopia lasting several days is produced, and in addition there is some degree of conjunctival irritation, but to a much slighter extent than in the first type.

Atkinson states that efficient protection, in both forms of this condition, was only given by red or amber tinted lenses, and by no other color.

**PUPILLARY ALTERATIONS IN NEURO-SYPHILIS.**—Nicolau, (*Ophthalm. Liter.*), states that in nearly every case irregular pupils represent a pathological condition due to syphilis and in 90% of such cases are accompanied by altered ocular reflexes. While perhaps not definitely constituting from a prognostic standpoint a menace to the patient's future, it is a symptom that should be carefully watched, as it indicates some involvement of the central nervous system.

Lowery and Benedict, (*J.A.M.A.*), support this view with a series of tabulations and their belief is that irregular pupils are of more diagnostic importance than unequal pupils, since the number of possible causes is less and the necessary lesion more severe.

Fuchs, in discussing the pupillary signs of Tabes mentions the Argyle-Robertson pupil as one of the earliest and most common signs of Tabes, and present in 70% to 80% of all cases. He further states, and in this he is supported by practically all recent writers, that reflex immobility of the pupil to light, with normal reaction to accommodation is an almost exclusive sign of syphilitic or parasymphilitic disease of the nervous system.

**VISUAL FATIGUE.**—Fatigue of the retina and visual centres is of much importance and occurs more frequently than suspected. We cannot discriminate fatigue of the retina and that of the intracranial neuron. Fatigue is attended by lowered visual acuity as is observed when eyes are being tested. The maximum loss of visual power quickly drops reaching a level where little change is noted for a long while. Age, exposure to light, overuse of the eyes at the near point for long periods of time, and disease influence the changes in visual acuity. The condition is also closely associated with general nervous breakdown, neurasthenia or asthenia. Strong contrasts are fatiguing; this is of importance because the power of the eye depends on sharpness of contrasts. E. Jackson, (*Amer. Jour. of Ophthalm.*)

## UROLOGY

Conducted by LEON T. ASHCRAFT, M. D.

**FOCAL INFECTION AND SELECTIVE LOCALIZATION OF STREPTOCOCCI IN PYELONEPHRITIS.**—H. C. Bumpus, Jr., and J. G. Meisser, *Arch. Int. Medicine*, 1921, XXVII, 326. In most cases of pyelonephritis a gram-negative motile bacillus, believed to be the colon bacillus, is generally the predominating organism in the urine. Therefore, investigation and treatment in the past have been directed against this organism. While foci of infection about the teeth and tonsils have been regarded with suspicion as causative factors, the rarity with which colon bacilli were isolated from them made their etiological role difficult to explain. The frequent association and simultaneous onset of oral sepsis and pyelonephritis led to the experimental work reported.

Six cases of subacute pyelonephritis in which the colon bacillus was found in the urine were studied. In each case there was also other evidence of sepsis in the form of abscessed or devitalized teeth and septic tonsils. Cultures from the granulomata after the surgical removal of the abscessed teeth and cultures from the roots of the devitalized teeth in each case gave pure strains of a green-producing streptococcus. A similar organism was found to predominate in cultures from the tonsils. These cultures, when injected intravenously into rabbits, produced marked lesions of the kidneys in 88 per cent of the animals. Extra-urinary lesions occurred in a much lower percentage of cases, the greatest number being found in muscles and joints, in which there was slight involvement in 14 per cent.

The lesions in the kidney were found mostly in the medulla and appeared as white necrotic streaks surrounded by marked oedema and associated with hemorrhage. The cortex occasionally presented small opaque yellowish-white areas.

Microscopic sections showed short chain streptococci to be the only organisms, and cultures made from the kidneys of the animals always gave pure growths of a green-producing streptococcus which on injection into other rabbits again localized in the kidneys. This demonstrates the marked elective affinity of this organism for renal tissue.

Following the extraction of the teeth or the removal of the tonsils in the reported cases there was in every instance marked exacerbation of the patient's urinary symptoms associated with a serious febrile reaction. During the reaction a green-producing streptococcus was recovered, with the colon bacillus, in the urine which had formerly contained only the colon bacillus. When mixed cultures from this source were injected into rabbits, elective localization in the kidneys again occurred. Cultures made from the lesions in the kidneys of the rabbits showed a green-producing streptococcus to be the causative organism as in the former cases.

The authors believe the elective localization was not due to the incubation of the bacteria in artificial media or to an overwhelming dosage resulting from their increase in numbers. Proof of this was the fact that when pus was expressed from the patient's tonsils and injected into rabbits without incubation the same elective affinity for renal tissue was shown as in the cases in which 3 to 5 c. cm. of glucose brain-broth cultures were used.

The authors conclude, "It seems from our study that pyelonephritis may often be due to focal infection harboring streptococci which have a selective affinity for the urinary tract, and that the colon bacillus, which is commonly found and generally believed to be the cause, is of secondary importance."



THE OPERATIVE TREATMENT OF GONORRHEAL EPIDIDYMITIS.—C. S. Vivian, *Annals of Surgery*, 1921, LXXIII, 357. Vivian reports the treatment of 100 cases of gonorrheal epididymitis by a modified Hanger operation. This procedure he believes is the best method of curing gonorrheal epididymitis in any stage. By releasing the tunica and puncturing the vas it relieves the pressure which occludes the radicles of the vas.

The skin of the scrotum is incised widely in front under general anesthesia and separated from the tunica, but the capsule of the testicle is not opened. After a vasopuncture the tunica is dissected free from the epididymis, turned back, and sewed with catgut behind the cord.

Superficial incisions are then made into the epididymis and through one of them a dull probe is introduced for exploration. At the lower angle of the wound a rubber tissue drain is inserted and fastened with catgut through the rubber and the covering of the epididymis. This having been done, the testicle is returned to the scrotum and the skin is sewed with silkworm gut.

The relief of all symptoms is immediate. The drain is removed in four days and the patient is able to be up and about in a week. The wound, however, will continue to drain a week longer.

In a re-examination of several of his cases of bilateral epididymotomy Vivian found spermatozoa in the semen. He insists that epididymotomy will usually cure the morning drop, and that epididymitis has never been known to recur on the side on which the operation has been done correctly.

THE REFLEXES OF THE GENITO-URINARY TRACT.—J. M. Bartrina, *Les reflexes de l'appareil genito-urinaire. Presse med., Par.*, 1921, XXIX, 293. In 1919 Vernet and Gallart Mones of Barcelona reported their discovery of a new sympathetic ganglion in man which they termed the "inferior mesenteric ganglion." This ganglion was already known in comparative anatomy. It is a single fusiform ganglion situated on the median line in front of the aorta, just at the point of emergence of the inferior mesenteric artery. It bears a relationship to the renal and reno-ureteral plexus and to the bladder, colon, rectum, uterus, uterine adnexa, and the prostate and other male genital organs.

Very little is known definitely regarding the urinary reflexes. The discovery of the inferior mesenteric ganglion, however, explains certain facts. For instance, it explains why renal disease may be accompanied by intestinal disturbances and an intestinal condition by renal disturbances. The reno-uretero-vesical reflexes, the reflexes of the urinary tract upon the genital tract, and the urinary and digestive reflexes become a very interesting study in view of the anatomical findings of Vernet and Mones.

Bartrina reports a study of the reno-renal reflexes in a man 24 years of age with lithiasis of the right kidney who had been operated upon twice unsuccessfully for the condition. He had repeated nephritic colic and progressive uremic intoxication. The urea in the urine was reduced at first to between 3 and 5 gr. per liter and later to 1 gr. Ambard's constant was extremely high, 0.364. Radiography showed a single calculus in the kidney pelvis. The presence of this calculus had not prevented the operatively opened kidney from healing without the formation of a fistula. The total quantity of urine obtained by catheterization in twenty-four hours was only 850 c. cm.

The condition was diagnosed as a reflex renal inhibition due to fixation of the diseased kidney in an abnormally low position and the presence of a calculus in the pelvis. Nephrectomy verified the diagnosis. After three days the patient began to improve, the amount of urine and urea eliminated constantly increasing to normal.

This case is reported not so much because of the paradoxical recovery from uremia following nephrectomy, but because it suggests that in anuria the other kidney is not necessarily involved and that renal neuralgias, the disturbances accompanying renal ectopia, and the effects of operation in cases of so-called essential hematuria might be the result of a disturbance of renal innervation due to the selective action of certain toxins on the nervous system. The renal parenchyma eliminated little more than 1 gr. of urea per day before the operation, but three days afterward, though less in quantity and functioning under more unfavorable conditions, it eliminated 68 gr. in the same period of time.

### DERMATOLOGY

Conducted by RALPH BERNSTEIN, M.D., F.A.C.P.

**ACNE AND INTERNAL SECRETION.**—According to Pick, the relationship between acne and puberty has been known for a long time. It is known that there is no acne before puberty, and it can be said that it begins with puberty and in many instances ends with it, in others lasts longer and may even accompany adult life. The widespread concept that acne is a result of sexual continence is erroneous. Sexual abstinence does not cause acne; abstinence is harmless to the normal person in this regard. For the person with a tendency to acne, however, abstinence may cause a recrudescence of acne. The three factors are the appearance of acne at puberty, influence of the sex gland, and the distribution of hair on the face. If one observes the hair distribution in the male case of acne, one notes the light character of the beard and the lack of hair on the cheeks, under the lower lip and on the neck. There is a thicker growth of hair in front of the ear, either side of the upper lip, and the transition to the cheek, as well as the arch of the chin. In female cases of acne one notes similar characteristics. The cheeks and chin region have especially marked lanugo hair growth, almost beard-like, on the chin and angles of the mouth. This distribution reminds one of patients with disturbance of lack of sex gland function. The genitals are normally developed and the hair distribution of the mons is typical for the sex. In acne one is not dealing with a hyposecretion, but probably with dysfunction of the sex gland. These observations led to the use of hormones, both masculine and feminine as required in cases of acne with favorable results. Local treatment was not used except for abscess formation. Acne associated with rosacea seems to react best to this treatment.—*Arch. f. Dermat. u. Syph.*

**CANCERS OF THE SKIN AND MUCOUS MEMBRANE.**—Tyler reports that when these cancers first appear they are purely local in nature, and because of this fact they are easily curable in most instances, squamous celled carcinoma of the skin and mucous membrane being the one exception. Certain forms of skin lesions should be recognized as precancerous, because of the fact that when neglected they become definitely malignant. Multiple keratoses on the dorsum are examples of a precancerous lesion, and should always be eradicated. The first principle of treatment is the complete destruction of a local growth. Not only must it appear to the eye to be eradicated, but all of the cell nests must be destroyed. These little growths extend around the terminal arterioles, and are especially well nourished between the branches of the arteries, so that they are the last to die. It is usually these cell nests at the bifurcation of the small arteries which remain after treatment and cause local recurrence. Not only the local growth but all draining lymphatics should be treated. We

should also be aware that certain types of cancer metastasize through the circulation, as well as through the lymphatic areas, so that when we are making an examination of the lesion we should not squeeze and rub more than is actually necessary to obtain the information which we need for treatment. After treatment is completed, the patient should be kept under observation for at least one year, and definitely warned to return at any time in the future if there is the least thing wrong.—*Nebraska State Med. Journ.*, Sept. 1921.

**THE DIAGNOSIS OF SYPHILIS.**—"Be quick to suspect syphilis; be slow to diagnose syphilis," is the advice which H. H. Hazen gives to his students in Georgetown University and Howard University. The average practitioner has placed entirely too much stress upon the Wassermann reaction. There are at least twenty-four other procedures which are helpful in the diagnosis, and very few of which taken singly will absolutely establish syphilis. No comprehensive outline of these methods having been found, the twenty-five are here presented, from personal history to necropsy. Cardiovascular, neurologic and eye examinations especially are insisted upon where no such involvement is suspected. Animal inoculations to determine with what strain the patient is infected, are believed to be of increasing importance, as is Roentgen-ray determination of possible bone conditions, which are to be suspected in congenital types.—*Am. Journ. Syph.*, July, 1921.

**CASE OF DERMATITIS HERPETIFORMIS.**—According to E. G. Graham Little, some years ago this woman was bitten severely on the finger by a field rat. The eruption began a year after and has been almost continually present during the past six years. The patient is very susceptible to arsenic, which makes treatment difficult. There is pronounced indicanuria and a high eosinophilia. There is an extensive eruption of the vesicles with pigmentation of the skin and intense itching, which places the case in the category of dermatitis herpetiformis.—*Proc. Roy. Soc. Med.*, London, June.

**THE VALUE OF BASAL METABOLISM STUDIES IN THE DIAGNOSIS AND TREATMENT OF THYROID DISEASES.**—Rowe carefully tabulates a series of eighty cases of actual or suspected cases of hyperthyroidism in which he has studied the metabolic rate. He points out that the importance of basal metabolism must be recognized. It is of great aid in the diagnosis of early and obscure cases of hyperthyroidism. Moreover, the degree of severity of an obvious hyperthyroidism can be determined by this test. Again the presence or absence of toxicity of an adenomatous thyroid is made evident through these metabolic studies. As a guide for surgical removal of goiters, surgeons are recognizing the value of this test. Finally, in the diagnosis of hypothyroidism and in directing and gauging thyroid administration metabolic rate determinations are of the greatest importance.—*Am. Jour. of the Med. Sciences*, August, 1921.

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## SURGERY

CONDUCTED BY J. D. ELLIOTT, M.D.

**THE INDICATIONS FOR SURGICAL TREATMENT IN THE DIFFERENT TYPES OF GOITER.**—Sistrunk, using Plummer's classification of goiters into colloid, adenomatous and exophthalmic, discusses the treatment of the vari-

ous types. He believes that colloid goiters are not surgical as they respond so well to treatment with iodine and thyroxin.

Adenomatous goiters usually appear in young persons. Twenty-three per cent. of the patients with adenomatous goiters in the Mayo Clinic show symptoms of hyperthyroidism, but these symptoms do not develop until the goiter has been present for an average of about sixteen years. In young persons, unless the goiters attain considerable size or produce symptoms of pressure, they are not considered surgical. In the majority of instances after patients with adenomatous goiter have attained the age of 25 or 30, surgery is advocated. All adenomatous goiters associated with hyperthyroidism are considered surgical if the condition of the patient will permit an operation.

Exophthalmic goiters occur at any age, but most often between the ages of 20 and 40. The condition is best treated surgically and the best results are obtained in patients operated on early in the course of the disease before marked damage has been done to the vital organs. Many patients require one or two ligations of the superior thyroid vessels preliminary to thyroidectomy in order to make thyroidectomy a safer procedure. If care is exercised in selecting the type of operation which should be performed in a given case, the mortality following operation is low.—*Surg. Gyn. and Obs.*, October, 1921.

SOME HYPOTHESES REGARDING RENAL TUBERCULOSIS.—A. L. Chute, *Journal of Urology*, 1921, v., 431. The author assumes that all tuberculous invasions of the kidney are hematogenous and secondary to a focus elsewhere in the body. In his own experience he has seen very few cases in which the infection was spread by way of the lymphatic route from a focus in the chest or from the bladder through the ureter.

The possibility that tubercle bacilli may enter the kidney by way of the blood stream from a previously existing lesion is universally accepted, although there are certain objections to this hypothesis. One of these objections is that hematogenous infection would tend to involve both kidneys whereas in numerous surgical cases of renal tuberculosis the lesion is unilateral. Bilateral involvement is present in only one case in seven. Chute states, however, that clinical observations made by him seem to reconcile these apparently contradictory facts and allow him to formulate certain working hypotheses regarding the manner in which the infection occurs.

In this connection he cites what were apparently two cases of tuberculosis of the kidney, both showing in the X-ray examination small calcified areas just under the capsule. These patients were operated upon, the calcified areas being scraped away, and both of them subsequently developed surgical tuberculosis which made a nephrectomy necessary. In neither case were the symptoms or findings similar to those commonly noted in renal tuberculosis, nor did the kidneys, when exposed, have the appearance characteristic of tuberculosis. It is the author's opinion that if these patients had not been operated upon they would eventually have overcome the infection.

Reference is made also to the case of a patient who complained of pain in the renal area and whose urine contained a few red blood cells and leucocytes, but no tubercle bacilli. X-ray examination was negative. In

a short time this patient was relieved of the pain and went on to complete recovery. Chute is of the opinion that this case was similar to the two others reported, but not so severe.

The working hypotheses formulated by Chute are as follows: As anatomical evidence of old tuberculous processes is frequently found in the apices of the lungs of persons who never showed definite symptoms of pulmonary tuberculosis, it is probable that incipient and very mild renal tuberculosis also is much more common than is generally believed. If the hematogenous origin of renal tuberculosis is accepted, we must assume that the tubercle bacilli are brought in approximately equal numbers to both kidneys, that small cortical infections are common, and that in the great majority of cases these cortical infections are common, and that in the great majority of cases these cortical infections are overcome by the rich vascularity of the kidney, progressing to the stage where the condition is recognizable through the presence of pus in the urine only when the kidney is especially susceptible by reason of injury or some other cause.

When pus is found in the urine the condition has reached an advanced stage and ordinarily cannot be cured in the sense that it can be brought to a standstill before the kidney function has been destroyed. The probability that this process will overcome both kidneys is one-seventh the probability that it will overcome one kidney.

At least some of the patients who complain of dull pain in one loin and whose urine is sterile but contains a few blood cells and leucocytes are carrying on a struggle to determine whether a tuberculous infection will overcome a slightly infected kidney, or whether the kidney will overcome the infection.

This last point has perhaps a practical bearing. A patient who is having occasional attacks of unexplainable acute pain, or fairly constant dull pain in one loin, and whose urine shows a little blood and a few leucocytes, should be advised of the importance of rest and of building up his resistance, as he may be dealing with an incipient renal tuberculosis which may be cured if proper care is given.

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## ENDOCRINOLOGY

Conducted by AUGUSTUS KORNDORFER, JR. M.D.

**THE ENDOCRINES AS FACTORS IN THE CAUSATION AND TREATMENT OF DYSMENORRHOEA.**—Garretson speaks of the failures to cure dysmenorrhoea at times by all the various methods heretofore used and calls attention to the endocrines, making some very useful observations. He believes that hypoadrenia lowers the sympathetic tone and therefore creates a state of vagatonia. The vagatative system is unbalanced with the onset of gonadal function. He believes that thyroid enlargement may be caused by either a hypothyroidism or hypogonadism. Compensatory exhaustion of the thyroid, suprarenals or overaction of the pituitary gland is responsible for the vagatonia usually existing in dysmenorrhoea. Hyperpituitarism causes visual disturbances, headaches, nausea, vomiting, and general or pelvic vagatonia. Gonad dysfunction causes changes in the teeth (torsion, absence of the lateral incisor or canines), atrophic areas or white spots on the nails (finger), local deposits of fat. Ovarian therapy is called for in hyperpituitarism; thyroid alone or combined with

ovarian extract in cases of hypothyroidism; hyperactive thyroid may be combatted with ovarian substance to aid in re-establishment of compensation. Dysmenorrhoeas resultant upon prolonged severe sicknesses or psychic shock yield to either the suprarenals or thyroid; ovarian extract being contra-indicated.—*New York M. J.*, 114:35, 1921.

**INFLUENCE OF THYROID PRODUCTS ON THE PRODUCTION OF MYOCARDIAL NECROSIS.**—Goodpasture has shown that animals fed large doses of thyroid gland or given thyroxin crystals manifest marked symptoms, namely:—increase of pulse rate, more forceful heart beat; loss of body weight, increased irritability, frequent diarrhoeas, and falling of the hair. Animals so fed were killed at the end of from two to three weeks and exhibited definite lesions: per-vascular necrosis or fibrosis in the wall of the right ventricle, focal necrosis or fibrosis in the papillary muscle of the left ventricle, and more rarely scattered areas of focal necrosis of the myocardium. One mg of thyroxin administered until the pulse reached 300 caused a widespread necrosis of the myocardium after the animals had been submitted once or twice to light chloroform narcosis. *J. Exper. Med.*, 34:407, Oct. 1921.

**THE TRANSPLANTATION OF PARATHYROID SUBSTANCE IN PARALYSIS AGITANS.**—Walter Kuhl reports a case in which a remarkable result was obtained in a case of paralysis agitans by implanting the parathyroid tissue of a calf into the abdominal wall of the patient. The implantation was made under local anaesthesia in several places. The retropulsion promptly disappeared and the function of the feet was resumed as well as that of the cheek muscles. The author believes that the disease is dependent upon parathyroid dysfunction. (Lavastine also calls attention to the Paraethyroids in this disease. K.)

**SENSITIVITY OF THE HUMAN ORGANISM TO ADRENALIN.**—It is stated in this article that 0.04 to 0.05 mg of adrenalin intravenously causes an increase of blood pressure of 100 and over, 0.01 to 0.02 raising the pressure 20 to 60, and even 0.005 mg may show a marked effect. After two to five minutes the blood pressure falls to the usual level. Some cases did not respond to subcutaneous injection but did to intravenous. 0.02 to 0.03 mg intravenously always showed increased tension.—*Deutsch. Med. Wochenschr.*, Aug. 1921.

**CASE OF FROHLICH'S SYNDROME FOLLOWING INJURY OF THE SELLA TURCICA.**—James Hendry reports a case of 26 years of age which had sustained a fall on the back a few weeks previous to the hospital visit. She was pregnant and gradually developed the characteristic symptoms of the Frohlich syndrome. X-Ray examination disclosed a fracture of the skull involving the sella turcica. Sugar tolerance was increased. The case improved under hypodermic administration of the anterior lobe of the pituitary gland but mouth administration of the whole gland was inert.—*Glasgow M. J.*, Sept. 1921.

#### OBSTETRICS.

Conducted by AUGUSTUS KORNDORFER, JR. M.D.

**THE TREATMENT OF SYPHILIS DURING PREGNANCY.**—Sampher claims that it is essential to treat the pregnant woman with sypphilis energetically. His method consists in administering Neosalvarsan in doses 0.15 gm weekly until 0.9 gm has been given. This is followed by a course of grey oil injections

which in turn gives way to another series of neosalvarsan treatments similar to the first.—*La Med.* 2:259. 1921.

**A CRITICAL ANALYSIS OF TWENTY-ONE YEARS EXPERIENCE WITH CESARIAN SECTION.**—J. Whitridge Williams makes a study of 183 sections performed in the Obstetrical department of Johns Hopkins Hospital. The conclusions are most interesting. The series from which these cases were taken numbered approximately 20,000 cases of pregnancy and comprised 104 single and 79 repeated operations. 41 women had 2 and seven three sections. There were—121 typical conservative operations; 4 extraperitoneal; 1 post mortem; and 57 Porro sections with a gross mortality of 5.46%. Deducting the deaths which were not due to the operation there was a net mortality of 3.45%. The mortality was 13 times greater in the first 50 cases than in the last 133 cases. This is attributed to the fact that in the latter cases the operation was performed before the onset or shortly after the onset of labor. The author claims that the Porro is practically safe in infected cases. Contraction of the pelvis was the indication for the operation in nine-tenths of the cases of blacks and in six-tenths of the whites. It is gratifying to hear the author say that Cesarian section is not the ideal operation for placenta previa and eclampsia. Sterilization of the patient is advised after three sections. The incision of the uterus should be made in situ and, the uterus only eviscerated in infected cases. Only seven percent of the children were asphyxiated deeply.

**A NOTE ON THE HEART IN PREGNANCY AND LABOR.**—From the year 1905 to 1915 there were 46,204 deliveries in the Rotunda Hospital Dublin with 168 deaths. In eleven of these deaths the heart was concerned. Study of these heart cases seems to indicate the fact that if the heart is well compensated the patient can safely come through pregnancy and labor. The author, Rowlette, feels that it is purely a matter of the compensation.—*Dublin J. M. Sc.*, 4:261, 1921.

**MODIFICATIONS OF THE SEHRT AORTIC CLAMP AND ITS APPLICATION IN POST PARTUM HEMORRHAGE.**—Alteration in the pad and thickening of the cushion, and the padding of the dorsal arm are the principle changes in this clamp. It has been used in twelve cases with marked success by the author. It is borne without narcosis. The longest period of application was 23 minutes. The instrument is not practical in private practice but is considered an addition to the equipment of hospitals.—*Zentrbl. f. Gynak.*, July 1921.

**TREATMENT OF PUERPERAL SEPSIS WITH TURPENTINE.**—On the evidence offered by Wederheke, Hermstein treated 30 cases of puerperal sepsis with turpentine. The author concludes that the course of the disease was not altered by the treatment. Granting the beneficial action of turpentine in various forms of bacterial infection, the author denies its value in puerperal sepsis.—*Zentrbl. f. Gynak.*, May, 1921.

**SMALL POX VACCINATION FOR PREGNANT AND CONFINED WOMEN AND NEW BORN INFANTS.**—Kirstein vaccinated 49 pregnant women, 11 confined women and 3 babies on the day they were born, together with 56 new born infants whose mothers had not been vaccinated. He believes that it is not wise to vaccinate babies born prematurely.—*Deutsch. med. Wochenschr.*, Mar. 24, 1921.

# THE HAHNEMANNIAN MONTHLY.

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FEBRUARY, 1922

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## CORONARY OBSTRUCTION WITH ITS CLAMANT SYMPTOM—EFFORT ANGINA—THE CULMINATION OF CARDIAC EVILS

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(Read by Title Before the Homœopathic Medical Society of the State of Pennsylvania,  
Sept. 13, 1921.)

THE inability of medical authorities, those who have had a large experience with and who have made exhaustive studies of so striking an ailment as angina pectoris, to agree upon an explanation of the production of its most salient symptom, breast pang, is not surprising when we consider the rather numerous and various pathological findings in fatal cases.

The disturbed histology of the myocardium; its vessels affected with arteriosclerotic changes; the atheromatous deposits that have gone on to softening and erosion thus disturbing the "epithelial mosaic" thereby forming areas inviting thrombosis, or that have become calcified, which process may be circumscribed or diffused; the coronary vascular obstructions resulting from these lesions; the inflammatory changes extending from aortic lesions to the reflection of the pericardium upon the base of the heart and roots of the vessels—particularly the aorta; the aortic walls and valves affected by histological changes incident to the inflammation attending the various infections—luetic, rheumatic, scarlatinal, morbillous, influenzal, etc.; the degenerations due to senility; the mechanical weakening of the wall of the ascending part of the aorta due to the stress of the ventricular systol resulting in pouching, dilatation and lengthening of the commencement of the aorta; the inflammatory changes in the investing tunics of the nerves



distributed to the aorta including the Pacinian corpuscles described by Thoma as found by him in the adventitia of the aortic wall.

All of these changes are, of course, organic and permanent and demonstrable. There are other elements entering this problem that are fugacious and variable, that in some cases at least are possible elements of importance in the anginal syndrome that do not admit of post-mortem demonstration—alteration in vascular tension due to general vaso-motor spasm measurable with common instruments and, the belief of some, that transitory spastic conditions develop in the coronary arteries, called by Nothnagle “vascular colic or crises,” which theory, of course, in its very nature does not admit of ante or post-mortem proof.

Clifford Allbutt says there are no data as yet either for or against this assumption; yet there is nothing essentially ridiculous in this latter theory when we recall to mind the constant changes in the calibre of arteries suiting their lumen to the physiological wants of the organs to which they are distributed. Allbutt’s characterization of Nothnagle’s theory of “vascular colic” as audacious does not accord with the effect of psychic storms producing anginal attacks which every observant physician must have noticed.

The famous case of John Hunter who said, “my life is in the hands of any rascal who chooses to annoy and vex me,” is a case in point and the tragic ending of Hunter’s career certainly stamps Nothnagle’s theory of vascular colic as anything but fanciful and audacious.

We know that local arterial constriction may be so persistent and complete as not only to threaten but actually to destroy the integrity and vitality of the tissues they normally support—Raynaud’s disease. The force of this unquestioned fact is apparent when we consider that acute ischaemia of the cardiac muscle is regarded as in some way responsible for the production of the anginal attack.

In the diagnosis of affections of the coronary arteries we are not helped by established symptoms directly attributable to vascular alterations and having a pathognomonic value—the diagnosis is largely a pathological inference. When cases of angina present themselves in which the typical breast pang develops as the result of some effort, especially that of ascending an incline, disappearing promptly on resting, we are justi-

fied in questioning the patency of the coronary arteries thereby creating "the incapacity of rigid or thickened arteries to secure that fluctuating blood supply to muscles which is necessary to repair the varying waste during rest and severe or slight exercise," as responsible in some way for the production of this clamant symptom. But, as will be alluded to again, it may be that instead of the anginal attack being the result of a lack of nutrition—the exciting cause may be the accumulation of the waste products that must accompany a drop in the tension within the coronary arteries.

Houchard is credited with having tabulated eighty hypotheses, or, as Allbutt styles them "guesses" concerning the method of the production of the anginal paroxysms; this number is a most excellent tribute to the fertility of the ingenuity of our craft. The very number of these guesses eloquently testifies to the impossibility of harmonizing any one hypothesis with all the features of this mystery. The belief of Clifford Allbutt that angina pectoris is the result of penetrating inflammation or degenerative processes extending from the intima into the media and adventitia of the root of the aorta is very strongly supported by data cited in his collection of post-mortem findings; yet even he admits that "still after all there remain not a few striking cases of coronary thrombosis and myomalacia—not all of them attended with patches of pericarditis—in which, nevertheless, attacks of pain occurred to which the name angina could hardly be denied."

Two conditions can be regarded as firmly established—one, that occlusion of the coronary arteries can exist without an associated angina—the other, that fatal anginas have occurred without any demonstrable coronary lesions. The most reasonable explanation of this latter fact is the assumption of vasomotor stress affecting the cardiac apparatus running into cardiac inhibition through the "summation of stimuli" affecting the pneumogastric nerves. The explanation of occlusion of the coronary arteries without angina requires the correlation of normal and morbid anatomy and anomalous arterial distribution with the maintenance of the coronary circulation.

The protection of the provision made by nature for the nutrition of the heart can not be regarded as indisputably settled. The dependence of an organ, the work of which is so incessant and unceasing, generating relatively large quantities

of catabolic waste products, the rapid removal of which is essential if fatigue is to be avoided, upon a free and untrammelled blood supply, would, *a priori*, appear to be such that nature would so surround the vascular supply of the heart wall with such safeguards that should one avenue of nutrient supply be cut off another could be depended upon to be established; such is found to be the case.

The degree of deprivation of nourishment which can be borne by the heart, if it is slowly induced, is wonderful; "a man may get on with the whole coronary system occluded so far at any rate as their orifices and main trunks are concerned" (Allbutt). It must be apparent that some reciprocal arrangement of the elements of the coronary circulation must form the basis of any explanation of the phenomena of non-fatal cardiac ischaemia.

The first fact to focus attention to the protection afforded by nature to the supply of blood to the coronary arteries is the locality of the mouths of the coronary arteries being just above the free edge of the aortic valves. This means their perfusion during the ventricular systole, and again when the ventricular diastole occurs and the diastolic aortic rebound takes place then filling again occurs giving them practically double the flow that other vessels of the arterial system receive, in this way maintaining the enormous supply of rapidly moving blood which the heart muscle needs.

It is believed their main blood supply is received during the relaxation of the heart wall at the time of the diastolic recoil when the aortic valves close and the column of blood in the aorta at its commencement receives its greatest compression from the aortic systole, more so than during the ventricular contraction, as is the case with all other arteries, thus giving the coronary arteries a unique distinction that can not fail to command our admiration. Aortic regurgitation, as can readily be seen, lowers this aortic pressure seriously; again extensive calcification of the aortic wall, dilatation and aneurism will also lessen the pressure in the aortic tube, lower the recoil tension and prevent the proper pressure in the coronary circulation-veins as well as arteries.

"The anastomoses between trunks of equal size are found where great freedom and activity of the circulation are needed, as in the brain" (Gray), where the circle of Willis provides the influx of blood from the opposite side should an obstruc-

tion occur. The importance of a like free circulation about the heart will lead the inquirer to anticipate a somewhat similar arrangement, but the anastomosis between the trunks of the coronary arteries has been affirmed and denied by various anatomical authorities. Indeed, the majority of anatomists and pathologists deny all arterial anastomoses to the coronary arteries allowing them only capillary communications with those of neighboring arterial twigs—describing them as “end-arteries.” In the 13th edition of Gray’s Anatomy the transverse branches of the right and left coronary arteries are described as “running on the surface in the auriculo-ventricular groove posteriorly and inosculating, the transverse branch of the right coronary with the transverse branch of the left coronary in the auriculo-ventricular groove on the posterior side of the heart, and the descending branches of both arteries running along the inter-ventricular furrows anteriorly and posteriorly to the apex of the heart where these branches inosculate;” thereby forming a transverse arc about part of the base and a longitudinal arc from the auriculo-ventricular grooves around the apex.

Piersol’s Anatomy, 4th edition, 1913, says: “It may be pointed out here that the branches of the coronary arteries on the surface of the heart are, as a rule, all end-arteries—that is, arteries which form no direct anastomoses with their neighbors. Practically no blood can be carried directly, therefore, by the left coronary into the territory supplied by the right one, or vice versa, and sudden occlusion of either of the arteries will produce serious disturbance; or, in some cases, complete arrest of the contractions of the heart. Since, however, the capillaries of the heart’s substance, into which each artery is continued, form a continuous network, a passageway for the blood of one artery into the territory normally supplied by the other may be formed by their enlargement, opportunity for which may be afforded in cases in which the occlusion of an artery has been very gradual in its development.” It is very evident that Gray and Piersol are in direct variance in their teaching on this subject of anastomosis.

Sir Clifford Allbutt, in his *Diseases of the Arteries* (1915), says: “That more refined methods of injecting have proved that the coronaries are not ‘end-arteries;’ their smaller branches anastomose freely everywhere in the structures to which they are distributed. Not only so but cross-connection

between arterial and venous branches have been demonstrated."

"Dr. West, Dr. Alfred Wright, Dr. Orth and others verified Haller's observation (1757) of the freedom of coronary anastomosis; and injections of red lead and gelatin made these communications plain in the X-Ray pictures shown at the discussion at the Congress for Inner Medicine held at Wiesbaden in 1907 and again at the International Congress of 1913. They were verified also by Jarvin and Merkel's beautiful stereoscopic skiagraphs showing anastomoses between branches of no inconsiderable size. Some of these, indeed, as Prof. Spalteholz has shown me are visible to the naked eye." (Allbutt.)

In a footnote to the description of the coronary arteries in Gray's Anatomy, 13th Eng. edition, p. 543, allusion is made to a statement by Dr. Samuel West, Physician to the Chest Hosp., Victoria Park, in an article in the London *Lancet* of June 2nd, 1883, in which it is claimed that there is a very free and complete anastomosis between the two coronaries. Gray says: "This, however, is not the view generally held by anatomists, for, with the exception of the anastomoses mentioned (already quoted) in the auriculo-ventricular and inter-ventricular grooves, it is believed that the two arteries only communicate by very small vessels in the substance of the heart."

This copy of the London *Lancet* is in my possession and details Dr. West's experiments and methods. I reproduce a synopsis of his experiment: "The anastomoses of the coronary arteries is a question of very great importance in cardiac pathology; but the statements in the works on anatomy differ, and even in special treatises upon the heart precise statements on this point are often wanting. It is quite certain in disease that one coronary artery is quite sufficient to maintain the nutrition of the heart. Cases are not very rare in which the mouth of one coronary artery is completely blocked by atheromatous changes in the coats of the aorta, and still the heart's nutrition has for a long time been well provided for. In one such case which I have recently examined, the coronary artery, the mouth of which was completely obliterated, was of normal size and appearance even up to the obstruction, and contained blood which must have been supplied to it from the unobstructed artery of the opposite side.

In one of the later editions of Quain's *Anatomy* this note occurs in small print: "It has been customary to describe the transverse branches of the coronary arteries as anastomosing in the auriculo-ventriculo sulcus, and the descending branches as anastomosing near the apex of the heart and this description was never doubted until it was found by Hyrtl, as the result of separate injections of these vessels, that the branches of one coronary artery can not be injected with material introduced into the other."

This note has been removed, I find, from the last and recent edition but there is still in the text a want of definiteness on this point. With the view of satisfying myself I have lately made a series of injections of human hearts. The material I used was a mixture of carmine and gelatin, which was injected hot into the hearts which had been thoroughly warmed in water. Some of the hearts were injected from the left coronary artery alone and some from the right. In both cases the whole heart was beautifully injected and microscopic sections showed the injection had reached even the smallest capillaries. The injection passed with hardly any pressure, and with the greatest ease into the vessels. So free was the anastomosis between the two coronary arteries that on injecting into one artery the fluid ran in a considerable stream out of the mouth of the other, and, by pressing in jerks upon the piston of the syringe, could be made to move also in jerks. The fact then, of the very free and complete anastomosis of the coronary arteries is established.

It is difficult to understand how Hyrtl could have arrived at such opposite conclusions. The most probable view is that he injected hearts recently removed from the body. The only failure which I experienced was with a heart injected as soon as removed. In this the injection failed to run over more than quite a small portion of the heart, not even over the whole of those parts to which the coronary artery injected was distributed. All the hearts, except this one, were macerated for some time in water, in order to get rid of all the blood clots which might be in the vessels in the recent state. Where this precaution is taken success is certain." (Dr. Samuel West.)

What attitude dictated by common sense is to be taken toward such conflicting statements made by observers of equal experience and attainments? It is quite probable that both are right. We should generously credit results not in harmony

with our findings, giving heed to one of the aphorisms of Sophocles—

“Think not that thy word and thine alone must be right.”

I think that both claims are accurately in keeping with the individual findings but are faulty when either deduction is made to apply to all hearts. We know that anomalies in the distribution of the general arterial system are very common. As both coronary arteries can spring singly from the aorta, or both from one common trunk, or as there may be two, three or four coronary arteries (Gray) so, I think, it does no violence to good judgment to assume that free anastomoses of large branches exist in some hearts, and no anastomoses of visible vessels are to be found in other hearts.

This experiment of Dr. West prompted me to repeat this perfusion of the coronaries using a suspension of barium sulphate in water and then making stereoscopic skiagraphs. The first heart was from a woman of 26 years, who suicided. I could not make a return flow from the other coronary either in a steady stream or *per saltum*. The resulting skiagraph showed the right coronary to be completely injected without a break even to the smallest ramifications which are as delicate as the finest lanugo hairs. The left coronary is thoroughly injected; a few gaps are to be found with traces of barium deposit through the gaps; these short areas were, no doubt, occupied by coagula along side of which the injecting solution had to make its way completely filling the vessels beyond after leaving traces of the barium salt on the coagulum.

The stereoscopic radiographs (using a very soft tube) made a beautiful picture reproducing the walls of the heart with the injected bloodvessels standing out in bold perspective. These pictures studied by viewing in both ant-posterior and post-anterior positions (made possible by merely turning the films about) showed absolutely no trace of anastomosis of the transverse branches and neither of the minute terminal branches about the apex nor in the inter-ventricular septum where the branches of the two coronaries can be seen approaching each other. The arteries in this heart are unquestionably “end-arteries;” the portrayal is so vivid and manifestly tangible that there can be no doubt on this point.

That capillary and pre-capillary anastomoses exist I do not doubt, but I do not see how any rapid collateral circulation

could be established in either of these coronaries should its fellow be suddenly obstructed. My work in perfusion has been handicapped by inability to get abundant material. I have had two deaths from angina while writing this paper and also a few deaths from other heart lesions, but in each instance I was refused an autopsy. Our hospital furnished a few hearts ranging in age from 12 to 55, but none in the decades in which anastomoses are claimed to be most frequently met with. In none that I have so far perfused and radiographed have I found anastomoses of large branches. In the interventricular septum I have found apparently a few anastomoses of terminal branches.

While I am not inclined to doubt anastomoses between larger branches of these vessels, yet I am firmly convinced that there are great differences in the vascular architecture in different hearts, and quite agree with the statements of Jamin and Merkel in 1907. Through their work in stereoscopic radiography they conclude "*that great individual differences exist in the anastomoses* and that these are found most frequently in the auricle and interventricular and interauricular septa."

Surely these departures from a fixed type of vascular distribution will give rise to symptoms, in cases of vascular occlusion, that will vary greatly. These vascular variations will go far to harmonize the divergent autopsical findings with the salient symptoms and may also explain why some people have hearts as patient as "cart horses," who can be overworked, abused and underfed and driven year in and year out until the last pound of force has been produced, typifying the heart than can be repeatedly lifted from decompensation to compensation; that can be made to unload dropsical accumulations that become anasarcaous, and this repeatedly, while other people have hearts typified by the "balky horse," who lies down on the job unexpectedly when the most trifling addition is made to his labor, as do the hearts of people who often die without a murmur or groan, or in their sleep when no one knew of any organic disease.

Nature, however, has made another provision for the sustenance of the heart muscle in case of absolute occlusion of the main trunks of the coronaries—namely, the *venae Thebesii*. "There is, however, another way by which the tissues of the heart may receive nutrition in cases of gradual occlusion of



the coronary arteries—namely, through the Thebesian orifices in the walls of both auricles and both ventricles. These openings communicate by means of capillaries with the coronary vessels, and it has been shown experimentally that the heart can be effectually nourished by blood passing from the chambers of the heart through the Thebesian vessels and back into the coronary veins” (Piersol).

“Other things being equal, the factor of safety is the rate of occlusion; if very slow an alternative nutrition may be established, even when the orifices of the coronaries are so overgrown that they can not be detected” (Allbutt). This is, indeed, the summation of nutritional disaster and one would think the agonal event could not be long deferred.

The corollary of a drop in the tension within the coronary arteries, due to some obstruction, is a slowing of the current of blood in the coronary veins which collectively empty into the right auricle through the coronary sinus. This, of course, means an accumulation in the myocardium of waste products of muscular contraction that is unceasing and which products must be produced in prodigious amounts—the effect of which accumulation is fatigue. Creatinine, carbon dioxide, water and lactic acid are the principal products of muscular activity, all of which are injurious to the muscle protoplasm, and if allowed to accumulate, will kill it. “In addition to carrying nutritive material and removing waste, blood has the power to neutralize the acids which are produced by the muscle cells during action and so maintain the alkalinity essential to the life of the cell” (Howell).

The explanation of the manner in which the anginal pain is produced is not satisfactory—in fact, no one theory adequately accords with the distribution and modalities of the pain, the behavior of the cardiac and respiratory functions at the time of the attack, and the conglomerate histology scheduled at the commencement of this paper; but, the consensus of opinion is that it is caused by the ischaemia *per se*, the result of coronary obstruction. I think there can be no question that the cause of the associated fatigue, that results from the failure to rapidly remove the waste products due to the decreased rapidity of the venous flow, is an element quite as important, if not more so, because in fatigue “the nerve cells always give out before the muscles” (Howell). Of course, it is a cheap assumption to say that the effect of fatigue

products upon the ganglionic centers and nerve fibres of the heart is, in some way, responsible for the breast pang but, as a "guess," it is as much entitled to consideration as that of the effect of the ischaemia *per se*.

Angina pectoris is a disease that should particularly interest physicians.

"Coronary sclerosis may truly be considered the 'doctor's disease' for it is more prevalent among physicians than among any other class of men. Over 80 per cent. of deaths among the teaching medical faculties of the large universities of the world during the last ten years have been due to this disease" (Elsner).

Too many physicians have "age without years;" ambition prompting the assumption of onerous burdens, professional and financial, with their attendant anxieties, too few and too short vacations, tobacco and little active physical exercise may be mentioned as some of the causes. Sir John Forbes many years ago made this observation: "Like many other diseases angina is the attendant rather of ease and luxury than of temperance, on which account, though occurring among the poor, it is more frequently met with among the rich, or in persons of easy circumstances."

Abandoning theory and turning to the practical in ending this paper I wish to allude to three points that have interested and impressed me:

*First*—Regarding the treatment of angina the result of aortic lues. The beneficial effects of mercury have been astounding only in cases where the drug was pushed to the point of "touching the gums." In my opinion no case can be regarded recalcitrant unless hydrargrism is established with nugatory results. As a case in point, I allude to that of a farmer's wife of 65 years, who was in the status anginosus—was in bed crippled with it to the point that any little effort induced breast pang. She has a systolic basic murmur and typically distributed anginal pain. I saw her as a consultant about five years ago, and on going over her personal history was impressed with her story of having had a "bone felon" for one year when she was but a year old, leaving her with a spatulate terminal phalanx; of course, this was the result of inherited lues. Her physician was advised to give the red iodide of mercury. This was furnished in rather large quantity which she took so faithfully and continued it on her

own responsibility thereby producing a very disagreeable stomatitis, and loosening of the teeth that she said were so loose that she could "have pulled all of them with her fingers." The effect was miraculous and now after five years she is active with very little to remind her of her former affliction.

*Second*—Next to the nitrates which so often give prompt, if short lived, relief to the actual breast pang I have found barium iodide, given in 1/10 grain doses t.i.d. to give a greater degree of freedom in locomotion in effort angina.

This effort angina, by the way, sometimes shows itself in a most interesting inconsistency. I recently attended a lady who could not slowly stroll along a street having an almost imperceptible upgrade without being arrested once or twice in a block by the pang, and yet she could mount her staircase with ease and celerity without inducing the pain. This was a genuine angina because within a month of first seeing the case she suddenly developed the status anginosus that was fatal in a few days, due, probably to thrombosis of the coronary vessels; this is the most common cause of the status anginosus.

Barium iodide is credited with being "a powerful stimulant of all forms of muscle. Smooth muscle may go into tonic contraction, while striped muscle shows increased contraction and a prolonged time for relaxation. As a result of direct stimulation of the heart muscle the systolic contraction is more complete and the diastolic relaxation less so" (Bastedo).

"Barium salts in small doses exercise a stimulant effect upon the various muscular tissues. Upon striped muscle it exercises an effect like that of veratrine causing marked prolongation of the contraction. It stimulates both the vascular (smooth) and cardiac muscles (striped) and in sufficient doses throws the heart into persistent contraction. According to Lauder Brauntton the chloride is a rapidly acting heart stimulant, steadying the rhythm and increasing the volume and force of the cardiac contractions. The dose of barium chloride is 1/2 to 1 1/2 grains. The dose of barium iodide is 1/8 gr. t.i.d. gradually increased to 3 grains" (U. S. Dispensatory, 20th Edition).

I don't pretend to know whether the result of the administration of barium in effort angina, giving a greater range of locomotor ability, is to be ascribed to the direct stimulat-

ing effect upon the striped muscle fibre of the myocardium, or to its effect on the smooth muscle fibre of the coronary vessels. I do know that I give it frequently and generally with good results. I met but one case that claimed to have increased cardiac distress after each dose—the patient, a female, had the genuine disease and died in the status anginosus.

An astounding result that I attributed to the exhibition of barium iodide (yet this outcome may have been the effect of the establishment of a collateral circulation) occurred many years ago in the person of a lady of 70 years who was in the racking agony of the status anginosus—she was rooted in one position in bed, sitting on its side with her head supported on a pillow thrown over the back of a chair. She had been in this position for two months, her lower limbs becoming elephantine in size which likeness was heightened by the epidermis becoming thick and rough and corrugated like the bark of a tree.

Any deviation from this position brought on the torturing agony. She had had effort angina for years and when this condition developed I looked for the speedy termination of life. After much floundering I finally gave barium iodide, with the result of a speedy improvement—she was able to lie down again and eventually left her bed and lived seven years in comfort as long as she kept to a level surface and avoided stair-climbing, the effort aggravation then showing itself.

This brings me to the *third* observation—the benefit accruing to those having serious heart lesions by “*backing up*” inclines and stair-cases. It is astonishing in many cases how much ease in breathing and freedom from pain are secured by this crawl-fish method of progression. In cases of broken compensation it is often very difficult to persuade patients to remain in their bedrooms—to say nothing of having them stay in bed. These cases insist on going to the lower floor, and, by stair climbing at night, more than undo the benefit derived during the day through the use of our so-called heart tonics.

The explanation of this phenomenon, considering that the same quadriceps extensor femoral muscles are used in both methods of mounting an incline, is that when the *distal* tendinous attachment of these thigh muscles to the tubercle of the tibia is the *fixed point*, as is the case in mounting a stair-case in the usual manner, then the force of the contraction is

distributed to the attachment of the origin of these muscles to a large part of the front of the femur and also to the pelvis through the attachment of the rectus femoris portion of these muscles to the anterior pubic spine and rim of the acetabulum; its force is *lessened* by being distributed over too large an area, radiating divergently from a fixed pivotal point like the blades of a folding fan. Whereas, when the *proximal* osseous attachment or origin of these muscles is the *fixed* point, as is the case when crawl-fishing a stair-case, then the force of the muscular contraction is *increased* by being concentrated in the ligamentum patellae, converging like the blades of the fan to the pivotal point.

In both instances, the muscles, joints and bones, relatively to the weight of the body, act mechanically as levers of the second class, but the difference in power, the result of the change in the point of muscular fixation, due to its diffusion in the one instance and its concentration in the other, can perhaps be better appreciated by using the metaphor of the "tail wagging the dog" when mounting an incline in the usual manner and the "dog wagging the tail" when the incline is mounted backward; the result is much less strain on the myocardium.

Whatever the explanation I know that many of my patients have been grateful for the "tip," trivial as it may seem. Yet we know trifles may have results of astonishing magnitude. Pascal said that "if the nose of Cleopatra had been shorter, the whole surface of the earth would have been changed." If such stupendous possibilities hang upon the length of a woman's nose then there is no means of knowing the result, by this simple act, of prolonging the lives and lessening the distress of these crippled sufferers who may die in their next seizures; the diminished tax on the myocardium certainly insures a longer life.

In conclusion, as a resumé, I wish to emphasize two points in this paper, features that prompted its preparation:

*First*—The probability of the dependence of the anginal seizure upon the presence in the myocardium, of the waste products resulting from muscular activity, which accumulation in abnormally large quantity is the direct result of hypotension in the venous system that must attend obstructive lesions in the coronary arterial system. Fatigue, the result of said accumulation, abolishes the conductivity of the nerves

before muscular contractility disappears—muscular contractions being still obtainable after the nerves absolutely fail to convey the contractile impulse. Therefore, it is logical to conclude that the pang is more likely the result of the demand on the cardiac nervous apparatus for greater activity than from a sudden demand for a greater blood supply than is forthcoming.

*Second*—The theory that the ultimate termination of the branches of the right and left coronary arteries, either as “end arteries” or as inosculating branches of comfortable size, embraces two distinct and different types of arterial terminals. Each heart individually has one or the other type of arterial distribution—the heart with a free anastomosis existing among the arterial twigs is capable of standing the stress of embolic or thrombotic obstruction while, per contra, the heart not so favored with inosculating branches is sadly handicapped in withstanding obstructive coronary lesions except those of the most slowly developing type. This class furnishes us with the shocking instances of sudden death with which we are only too familiar.

P. S.—Since my paper was written a book on the anatomical and clinical aspects of the “Blood Supply to the Heart,” by Dr. Louis Gross, of Montreal, has been issued from the press of Paul Hoeber, of New York. This is a most technical work and is profusely illustrated by radiographs and photographs of the injected vessels after the myocardium had been dehydrated with alcohol and then cleared in synthetic oil of wintergreen and photographed while immersed in this medium. It is the most thorough, complete and valuable work on the architecture of the vessels of the heart with which I am acquainted. I quote some of his deductions—those having a bearing on some of the points dilated upon in my paper:

Relative to the anomalous distribution of the coronary arteries we find that “the coronary arteries are rather prone to variations—this disposition is so marked as to render their description somewhat artificial and rigid.” His studies of many hearts have led him “to the general conclusion that the heart is the richest organ in the body as regards capillary and precapillary anastomoses between branches of the same coronary artery as well as between branches from both coronaries,” and that “anastomoses in the heart are universal and abundant.” In addition to this he asserts that anastomoses

exist between the branches of each coronary artery and between the coronaries and *vessels from the adjacent and attached organs*—branches from the bronchial arteries, the internal mammary arteries and those of the diaphragm. According to his observations the existence of anastomoses “render beyond dispute the fact that distinct connections exist between the cardiac vasculature and that of adjacent organs.”

Dr. Gross finds that a very characteristic series of changes takes place in the cardiac vascular architecture as age progresses. “The age of the individual is of prime importance in this connection (coronary obstruction), for the older the individual *the more free and patent are the anastomoses*.”

An old heart is, therefore, much more prepared to receive with relatively little or no damage the brunt of a sudden obliteration of a nutrient vessel.” “Thus it is seen that besides the factors of size of the obliterated vessels, their location, the duration and rapidity of the obliteration, the condition of the general circulation and that of the heart musculature, another very important factor must be added, namely, the age of the individual.”

Unfortunately, the illustrations can not be regarded as proof of the assertions of “universal and abundant” anastomoses because a single view of the specimen lacks the perspective found in a stereogram that is so necessary in determining by sight the existence or non-existence of anastomoses.

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### CONCERNING URAEMIA

BY CLARENCE BARTLETT, M.D., PHILADELPHIA

(Read before the Homœopathic Medical Society of the State of Pennsylvania, September 13, 1921.)

ORIGINALLY the term uraemia was used to indicate just what it signified, namely, an intoxication of the blood with urea; but this was many years ago. The designation still lives, but the definition has changed to such an extent, indeed, that it may be accepted as of uncertain significance. In 1899 I read before this Society a paper entitled “Some Points Connected with the Diagnosis of Diseases of the Kidneys,” in which the status of uraemia was reviewed briefly. In that paper was suggested the propriety of substituting the term

"renal toxaemia," as indicating the renal origin of the condition without binding the physician to any theory as to the nature of the poison. Up to that time, so far as I know, there had been no general objection to the term uraemia, and so far as I then knew the substitution of "renal toxaemia" was new with myself.

The difficulties attendant upon the formulating of a definition of uraemia that will withstand severe criticism are insuperable. One author is satisfied with the explanation that uraemia is the retention in the blood of poisonous substances which should have been eliminated by the kidneys. Another claims that the poison is one that does not exist normally, but is formed by reason of defective metabolism, and is then retained. A great authority, John Rose Bradford, has proposed the following: "A group of symptoms arising during the course of many renal diseases, always grave, not infrequently fatal, and dependent mainly, but not entirely upon derangements of the functions of the nervous system." This latter is a most remarkable definition as it evades entirely any reference to the possibility of a toxic origin.

Clinical leaders, as well as the rank and file of the profession, have created even greater confusion than have the authorities, for it is altogether too prevalent a custom, contradiction of which is not met complacently, to attribute all deaths from renal diseases to uraemia. A former coroner's physician, Dr. H. F. Formad, after an autopsy on one of my patients who died within a few hours with rapidly appearing coma, and with kidney disease as the only pathological condition, remarked that death did not result from uremia, although plainly dependent upon kidney disease. His successor, Dr. Henry S. Cattell, in a very similar case chose to use the term uraemia as expressing the cause of death; but added that uraemia was a term that "covered a multitude of sins and ignorance"; that it was a very convenient term by which to designate the cause of the fatal termination of renal diseases. In both patients, the flow of urine had been somewhat diminished; neither had albuminuria; and both excreted sufficient urea to suggest that poisoning by it to be out of the question. At the time these experiences occurred clinical laboratories had not advanced sufficiently to make blood analysis as to nitrogen retention practicable.

For many years, the extent to which urea can be poisonous



has been debatable. We know that obstructive anuria can continue for days without producing uraemia. All of us have observed patients with defective metabolism, or with a constitutional renal inadequacy whose only ill-health has been a lack of constitutional vigor. Certainly they have led comfortable lives and ultimately died of old age. On the basis of toxæmia accepted from their apparent excretory incapacity, they should have ceased to live. All of us have also seen remarkable examples of complete cessation of urinary excretion, arising from various causes without even a symptom to indicate that harm has been done; and yet urea and other substances have failed of elimination. It really seems as though "the stage must be set" for the exhibition of a clinical performance before the toxic substances can act. Large doses of urea have been used therapeutically with advantage. In fact, an English physician has prescribed it in doses of 80 grains and upwards daily as a means of stimulating urinary excretion to relieve the dropsy of chronic parenchymatous nephritis. I myself have administered 40 grains daily with good effect in one case. The urea really seems to act as a stimulus to excite the kidney to good action for a time. On the other hand, there is a limit. Hewlett has shown that when urea is in the blood to the extent of 150 mg. per 100 cc. it produces severe symptoms. Please note the expression "150 mg. per 100 cc." as a suggestion that concentration is the factor rather than the total quantity. Additional experiences have not been wanting to show that it is possible in animals to create the manifestations of some types of what we call uraemia by the administration of large doses of urea. The comparative innocuousness of urea when administered per os receives tacit approval by the general recommendation that large doses of it internally may be used as a means of testing renal function.

Reference to the numerous standard textbooks assigns to uraemia a great variety of unrelated symptoms, as coma, wakefulness, paralysis, convulsions, pains, numbness, delirium, dyspnoea, psychoses, and gastro-intestinal disturbances. It is a sound principle incapable of dispute that all poisons of whatever nature introduced into the animal economy must exhibit a well defined and characteristic symptomatology capable of recognition, subject to exceptions within circumscribed limits, and even these are due to the idiosyncrasies of the patient. In view of the varied symptoms of uraemia it is not reasonable

to believe that the same poison can be capable of producing all of these variations.

Taking once more the textbook descriptions of uraemia, and we find authors tabulating as many as nine symptomatic types of uraemia. Osler, describing the symptoms of uraemia, does so under the following headings "(a) mania; (b) delusional insanity; (c) convulsions; (d) coma; (e) local palsy (f) other cerebral symptoms, as headache; and then further adds to the above list uraemic dyspnoea, of which four types are described: gastro-intestinal symptoms and uraemic stomatitis." Surely idiosyncrasy must run wild to make such a state of affairs possible. It is evident, therefore, that so far as toxæmia exists as the terminal condition of nephritis, it must be the result of a variety of poisons, the exact nature and origin of which are unknown. Degree of concentration of poison and actual quantity in the circulation and rapidity of formation must play some part in producing the clinical picture. Even admitting this, it is evident that we must have multiplicity of causes as the etiologic factor.

The profession has created much of our troubles in assuming that all renal patients die in toxæmia, when, as a matter of fact, we know otherwise. The terminal phases of nephritis are as follows:

1. Toxaemia.
2. Localized oedema.
3. High blood pressure.
4. Low blood pressure.
5. Cardio-vascular changes, including arteriosclerosis.
6. Anatomical changes secondary to any of the above *e. g.*, cerebral haemorrhage.
7. Acidosis.
8. Terminal infection.

So far as toxæmia is concerned, the physiological chemist is at work on the problem. He has shown most conclusively that there is a retention of non-protein and protein nitrogen in many conditions; that in others are some unknown poisons about which he thus far knows nothing. The problem can be solved only by the clinician working in conjunction with the laboratory investigator. Obstetricians have thus far outdistanced the medical man in this respect in that they have made considerable advancement in the treatment of the toxæmias of pregnancy.

The limited time prevents any consideration of the diagnosis of the various conditions present in nephritic fatalities. I might mention as too frequently neglected the "terminal infection." With the advanced stage of nephritis, the natural defences of the body are broken, even demolished. Thus it is that not a few microorganisms ordinarily innocuous become absolutely fatal in their invasion. There is a toxæmia, it is true, but it is not renal excepting in an indirect sense. It is a pure bacterial invasion. Such cases are probably of more frequent incidence than is renal toxæmia *per se*.

It may be rather far fetched to refer to acidosis as a cause of death in renal affections. At the present time this subject is receiving the greatest consideration. In my opinion we are carrying the matter too far, although its importance in diseases of children and in diabetes cannot be over estimated. I cannot recall at the present moment any extended observations concerning acidosis and nephritis. Some time back, going through the wards of Hahnemann Hospital, and having this subject in mind, I took the chemical reaction of the saliva of three patients in the terminal stage of nephritis, and all three showed a most pronounced acid reaction. This, however, is no argument in favor of acidosis as a cause of the serious symptoms; it simply tells us that the saliva in these severe cases presented an acid reaction. I had previously noted this phenomenon in a number of other cases. It is possible that like blood pressure, diminution of the alkali reserve of the body sometimes may be a purely conservative symptom, and in no sense an etiologic factor.

The question of treatment is always uppermost in mind; but in following out our plans how often do we always observe one of the primary principles, *non nocere*, do no harm. Let us study some of the general measures we see employed. First it is not uncommon to find such cases treated by various expedients to promote sweating, oblivious of the fact that the chemical investigation of the sweat has proven that the secretion of same thus excited, contains no abnormal element, and that it has only served to dehydrate the body, thus concentrating any toxins hypothetical or otherwise. I find this done also without due regard to various possibilities as terminal infection, high blood pressure, acidosis, and the like. Yet the production of diaphoresis is universally recommended. Un-

doubtedly it is good within limits and in selected cases. As a routine measure it is unreasonable.

Take again another item, the administration of diuretics. I am obliged to confess that in organic renal disease I have never seen any result from any diuretic excepting apocynum and urea, the latter experience being limited to but one case of parenchymatous nephritis. Sometimes I question whether this form of medication is ever admissible. In a recent communication published in the *Clinics of North America*, Christian speaks of the right and wrong use of diuretics, and brings the question down to a few words which I may express as follows: If they accomplish their purpose all right; if they do not, then stop them. In other words, success establishes the propriety of their use. If they fail, they are harmful. As we are dealing with organs which have a highly specialized function, it stands to reason that destruction of their various parts cannot be rebuilt, that they are gone. About all that we can do is to lighten the load, and treat symptoms not terminal phenomena. Before we proceed to practice elimination, let us decide that elimination is indicated and possible.

The more we look into this subject the greater appears to be our helplessness. I am afraid that we pay altogether too much attention to terminal conditions and not enough to those stages of a disease in which the condition may prove to be curable. The apparent hopelessness of an advanced nephritis has hypnotized us into the belief that a similar bad prognosis should be formulated for the earliest stages—a conclusion that is absolutely unreasonable, although it may possibly be true. There is a growing disposition to look upon advancing chronic nephritis not as a continuing pathological process, but as a succession of insults to the kidney. If the latter hypothesis is correct it only remains for us to put an end to those "insults," insist that the patient shall lead a regular life and institute proper medical treatment.

Quite recently, while reading Joslin's article in the Oxford System of Medicine, on the treatment of acidosis in diabetes, I noted with special interest his statement that diabetics with dropsy seldom died in acidosis. The author offered a theory to account for this, as follows: The drainage of serum into the serous cavities and connective tissue withdrew from the circulation poisons which the kidneys and skin could not excrete. Actuated by this suggestion Joslin noted as part of

his treatment of acidosis the free introduction of sodium chloride by the veins, skin, rectum and mouth, his idea being that a very important factor in detoxicating lies in getting the serum out of the vessels into the connective tissue spaces. Reading this it was immediately brought to my mind that in the past my nephritic patients with pronounced dropsy had not died of so-called uraemia, but from other factors above enumerated. I spoke to a number of my colleagues concerning this question, and found that their experience had been similar to mine. If these experiences are mere personal surmises they may be ignored; if there is something in them we should do a little thinking. At the present day one of the very important lines in the treatment of nephritis with dropsy is salt starvation. There can be no doubt whatever that this treatment has done considerable good in many instances. In fact, it has been characterized as the most important advance in renal therapeutics in the last fifteen years. I believe it to be a good practice, but I question whether it is always indicated. I would suggest that instead of pushing the treatment to an extreme, that we follow the advice of Christian respecting the use of diuretics; namely, to use it, but if it does not bring early results to stop it.

Let us ask ourselves if it may not be a good plan at times to utilize fluid retention as a means of elimination. The dropsy having been produced let us use Southey's trocars, or better yet, make free multiple incisions in the oedematous parts, thus carrying off the serum rapidly.

If our management of nephritis is to improve in future years we should make more free use of the functional renal tests. The phenolsulphonethalein test is in general use, and needs no further mention at this time. It has been definitely proven that the renal function relates to the elimination of a number of substances, and that its capacity in all of these cannot be measured by any one particular test. The subject has been very thoroughly studied by our biological chemists, and at the present day we have some very efficient tests which may be very readily applied, with very little expense as to time on the part of the physician himself. The main thing is that the patient shall be ordered definitely to do certain things. The urea concentration test is especially simple, requiring only the administration of 15 grammes of urea, dissolved in water, and estimating by one of the clinical laboratory methods the

percentage elimination at one and two hours. In a normal individual this should be  $3\frac{1}{2}$  or 4 per cent. or more. In renal disease 2 per cent. or less. The blood urea requires a little more time and the possession of a more complicated laboratory technique, but is of importance, especially when studied in connection with the urea concentration test. The ability of the kidneys to eliminate salt also must come in for consideration, and is very simply applied.

A blood urea concentration above 50 m.g. per 100 c.c. is serious. Above 100 m.g. the prognosis is bad, recovery impossible, and a fatal issue liable within a few months. There are cases in which renal function is badly impaired and the urea blood concentration good. It is generally held that the prognosis in such cases is relatively favorable. Sufficient data, however, are not available to enable any one to speak with authority.

The above remarks I ask you to accept as a mere sketch—a very incomplete one in fact. I do feel, however, that it is sufficient to bring to the minds of my readers such an abundance of thought as to start a discussion of which our society must be proud. The nature of uraemia hardly seems debatable, as we do not know anything of practical nature. We can discuss the relative frequency of the causes of death in nephritis; the paroxysmal storms vaso-motor or toxic, as they may appear to be; the dietetic management of nephritis; the general management of the nephritides from a terminal point of view, the value of diuretics, and the indications and results from arsenic, aurum, cuprum, apocynum, mercurius, cantharis, apis, and other remedies which may come to mind. I know that the subject is one concerning which all have had experience and should have *something to say*, rather than something to talk about.

#### DISCUSSION

G. MORRIS GOLDEN, M.D., Philadelphia: The study of uraemia is a complex one. A discussion may be endless, for we must realize that it is a condition marked by multiplicity of manifestations, and at the same time, a multiplicity of causative factors, many of which we are not cognizant.

While the term may be inexact, it has covered, and we must say is descriptive of the several symptom complexes occurring during the course of the various types of nephritis and its allied conditions.

A study of these many manifestations has led to a conception of various types of uraemia.

The convulsive or epileptiform form, with its sudden onset was the earliest one recognized. Again, a second type is observed which never displays a sudden onset. It is gradual in onset and characterized by slowly deepening coma, with few other symptoms. A third type may show visual disturbances with gastrointestinal disorders, possibly ending in a terminal convulsion or coma. A fourth shows a symptom complex, characterized by certain nervous symptoms with mental disturbances.

In reference to the causative factors of these various types of so-called uraemia, I do not feel the theory can be accepted that they are all due to the toxin of urea.

The present day idea is that uraemia is due, chiefly, to the retention in the body of substances normally excreted in the urine, and that the severity of the manifestations bears a direct relation to the degree of urea retention in the blood.

Another factor of interest, is that such manifestations may be the result of acid retention, for at times, appropriate alkaline therapy completely relieves these symptom complexes.

When one considers the so-called various types of uraemia, it seems probable that each one has a different disturbance of metabolism as its causative factor. Hence, the exact nature of our so-called uraemias will not be cleared until we have a better and more thorough understanding of the physiological chemistry of the body and its disturbances, as the result of pathological changes. A possible causative factor of the supposed uraemic complexes may be found in the relation of the organs of internal secretion.

A term from a clinical standpoint which would be more applicable to that of uraemia may be summed up in the several words—renal inefficiency.

Doctor Bartlett has mentioned the many terminal conditions in which so-called uraemia may be a factor; but from a clinical standpoint we cannot feel that they're all due to what we recognize as a uraemia or urea retention.

In the treatment of uraemia, the injudicious use of the hot pack is at times harmful. It has been a matter of common observation that certain cases following sweating and diuresis in which oedema was present are followed by uraemic manifestations of greater intensity. Hence, in these cases, if we are going to sweat them, they should be liberally supplied with water, and not too great a restriction put upon the food ingested. The same factors hold true from the standpoint of

chloride retention, and in certain cases its complete withdrawal is followed by unpleasant symptoms.

We must admit that uraemia presents a complex intricate problem, and that we do not know its exact cause, and cannot account for the associated conditions grouped under this term.

DR. W. A. PEARSON, Philadelphia: I did not hear Dr. Bartlett mention the relation of creatinin to the urea of the blood. I think that it is one of the most important clinical factors. Where there is concentration in the blood, so that it contains more than five milligrams of creatinin to one hundred cubic centimeters of blood, the patient is very near coma. That is based on the relation of creatinin with urea.

I am glad that Dr. Golden recognizes now, if never before, that physiological chemistry is the greatest branch of medicine. I have known this for many years, but it is common knowledge now; and I hope that the day may come when my ambition shall be realized to spend in the laboratory ten or twelve hours each day, working on these fascinating problems. I think that the development of medicine will come largely in the line of physiological chemistry.

DR. CLARENCE BARTLETT, Philadelphia, closing: I would have no remarks to make in closing, were it not to answer Dr. Piper's suggestion as to high blood pressure and its treatment. My paper did not say that high blood pressure caused uremia. What I did say was that high blood pressure was one of the causes of many of the symptoms in terminal nephritis, and was incidental to the production of cerebral hemorrhage when the arteries were unable to stand the strain.

All high blood pressure does not relate to renal damage in the same way, nor are all cases of high blood pressure susceptible of the same explanation. All present have probably been interested in the observations of the English scientist who has discovered a way of telling whether the patient is lying or not. He attaches to his subject the blood pressure apparatus, and then begins his inquisition, and when the man tells a lie his blood pressure goes up. If the blood pressure stays even it is assumed that he is telling the truth. While not placing any dependence upon this as a means of modern detective work, nevertheless it has this grain of truth: namely, excitement or perturbation will cause blood pressure disturbances. Quite recently, while examining a patient, and finding his blood pressure lowered some thirty points below the previous recording, I made the remark rather unexpectedly, "Well! Well!" whereupon almost like a flash, up went the blood pressure twenty points. Also quite recently one of my patients



had been refused life insurance because his blood pressure was over 150 as shown by the examiner. I had long known the subject intimately, as his physician, and believed him to be in the best of health. He also felt that I was his friend; my examination with the Stanton instrument gave the blood pressure, systolic 130, diastolic 90. Immediately he subjected himself to the life insurance examiner, and again the high blood pressure was shown. And so he went back and forth a couple of times more; finally he could go before the stranger without getting excited, and was eventually accepted as a good risk.

While high blood pressure is a very important factor not to be neglected, I really feel sometimes, when I hear of the misapprehension concerning the subject on the part of the laity, that it may be a calamity that blood pressure was ever "invented." The apparatus is exploited by practitioners, so-called, without diplomas, and their findings accepted as wonderful truths by a gullible public.

It is not, of course, a desirable thing to have a high blood pressure. Still I recall a gentleman, many years ago, whose blood pressure ran at least 300; how much more I could not tell, because that was the limit of my scale. That man lived ten years longer, in most excellent health, dying at the age of 70, with pneumonia.

In a number of cases, perhaps the majority, high blood pressure appears to be a conservative process, conducive to well feeling and good function. This is attested by the frequency with which the administration of drugs, such as the nitrates, to lower the pressure, is followed by general discomfort, apparently due to the artificial condition of the blood stream.

All of us have observed in our practices women of middle age, who have well passed the menopause, or who still suffer from climacteric symptoms, in whose cases the blood pressure is high. Now such patients should receive hygienic treatment, and possibly in some instances the administration of one of the excellent ovarian preparations now on the market, preferably lutein.

We hear the public discussing diet as a means of relieving high blood pressure. I must confess myself as ashamed of the profession in its alleged attitude concerning this subject, as elucidated by their patients. There is no doubt whatever that there are very many people who subsist upon a badly balanced diet, with much more protein than is required. Some of them have brought themselves into their present deplorable state by such protein excess. When we find a patient of that kind there is no doubt whatever concerning the propriety of

ordering the individual to go to sane and safe feeding. What I deplore is the placing of a patient on a diet that does not permit of proper nutrition, and is just as badly balanced as it was in the old. It may be, probably often is, advisable to bring the patient to a starvation basis, for a few days. A continuance of the starvation diet for an indefinite period means malnutrition of the myocardium, and naturally low blood pressure.

Of all the single methods of use for the treatment of high blood pressure, *per se*, I have the most confidence in the high frequency current administered as the condensation couch. Whether the results are psychic or not I cannot say; I do know that patients treated by it appear to thrive.

High blood pressure is but one symptom and exists in many combinations, which in the study of any individual case must be carefully worked out. Common sense rules should be our guide, rather than resort to one or another of the numerous fads which come before the profession and the public almost every month.

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### WAR NEUROSES IN GENERAL PRACTICE

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(Read before the Homœopathic Medical Society of Pennsylvania, Sept. 14, 1921.)

THE problem of the functional nervous disturbances met with in ex-service men is one which, on account of its importance, has demanded serious consideration. Because of the unfortunate use of such terms as "shell shock" and "war shock" erroneous conceptions have become prevalent. This paper covers a study of examinations and treatment of ex-service patients while special neuro-psychiatric examiner for the U. S. Public Health Service.

Shock is a surgical condition associated with or the outcome of physical trauma, such as serious injuries of the head, trunk or limbs. It is an acute condition from which the patient reacts—if he is to recover at all—within a few hours, almost always within twenty-four. The application of the term to the functional nervous disorders observed in soldiers is, therefore, objectionable. The term "shell shock" was not accepted in the army as a diagnosis of disability or death.

There are two reasons why the term "shell shock" can-

not from a purely medical standpoint be defended. First, it implies a single etiology, the physical effects of high-explosive shells on those subjected to bombardment and who suffered no external physical injury; this was far from being even the main factor in the determination of the symptoms. Second, the clinical types covered by this blanket diagnostic term are too various to be safely gathered under one heading. It is, therefore, more advisable to use the term "*War Neuroses*," which gives the desired latitude in grouping the different clinical pictures that occur, and focuses the attention on those influences which come directly from warfare. Even this term is virtually obsolete at this time after almost three years since the cessation of the "World War."

War Neuroses has been defined as "Those functional nervous conditions arising in soldiers, which are immediately determined by the conditions of modern warfare and have a symptomatology whose content is directly related to war."

In any large body of troops, neuroses as well as psychoses, develop as they do in times of peace, and many of these are determined by factors which are essentially those of civilian life. In the latter the symptoms are the same as those occurring in peace times. This group of functional nervous diseases presents no problems that are different from those which have been studied for many years. They do not differ in any essential from those met with after railroad or other accidents. The palsies, contractures, mutism, deafness, blindness and other well-known functional disturbances are met with alike after railroad and other accidents, and after war experiences, and are of common character; in reflecting on their nature, we are at once carried back to the history of railroad and industrial accidents and their interpretation.

The neurologic problems of war assumed an importance quite undreamed of, and the necessity of neuropsychiatrists for a modern army received general recognition. In battle areas the need of neuro-psychiatry exceeded that of general medicine, as the nervous and mental casualties probably exceeded 10 per cent. of the total casualties. France maintained 20,000 neurologic beds in the rear, most of which were occupied by functional cases; and at the front, tried to maintain one and one-half neurologic beds for each thousand troops. It was estimated that 26,000 beds were occupied each year, in Great Britain, by purely hysterical patients.

No entirely satisfactory explanation has been offered for the unprecedented frequency of these neuroses in the World War. The great increase in the number and intensity of the explosives did not altogether explain it—as they developed after gassing, machine-gun firing, and perhaps oftenest when there had been no direct exposure to firing at all. They developed in the Base Hospitals in France, and practically all of the symptoms mentioned as war symptoms had been observed in the home cantonments during the training period. Neither does it seem probable that it was an entirely new development of this war, but rather that it existed in earlier wars, in smaller numbers surely, and probably under a variety of names, in our army, perhaps “Nostalgia” commonly called homesickness. Also the fact that “Absenteeism” as an idea had a foreplace in the minds of both officers and men whose sole reason for discharge was a war neurosis. It seems probable that among the 600,000 cases of absenteeism reported from the Union Army during the Civil War, there might have been found numerous representations of modern war neuroses.

The factor of predisposition is not to be denied in considering the causation of these conditions, but it is generally believed that it is sufficiently marked in most cases to have justified the rejection of the recruit.

Neuroses were credited to have been more frequent in the infantry and trench warfare in common with other casualties. The early impression that they were not prevalent among officers was not borne out by later experience. In a small proportion of a total number of cases the individual had been exposed to a traumatism severe enough to have caused lesions of the central nervous system without external wound.

Too much emphasis can hardly be laid on the factor of exhaustion. The break was often preceded by weeks of disturbed sleep, due to bombing and artillery fire; and during an advance the reports of several days of excessive exertion, nervous strain, no sleep at all, exposure to cold, only cold food—and little of that. The wish to be out of the war, which all along may have been latent, came more to the surface when the shaken soldier staggered to or was brought to the first aid station, or when he emerged from a period of unconsciousness. This was especially the case following the signing of the Armistice and to those who were assigned to the Army of Occupation. Under the influence of food, rest and encourage-

ment, this imperfectly formulated wish sank back of itself or required additional effort on the part of the medical officer to make it recede. This period was one of greatly exaggerated susceptibility, and during it the most trivial circumstance petrified the idea of illness and a way out by means of it.

As every one now knows, the prevalence of the war neuroses in the army was in the hands of the medical officers nearly as much as the control of infectious diseases. There were measures which had a tendency to suggest functional nervous diseases, and there were others which prevented them. It was a period when the kind, firm and confident attitude of the medical officer completely reassured the shocked man as to his ability to again carry on his activities, and inspired in him the firm intention to do so.

After the elimination of all totally foreign conditions, such as mental disease and organic nervous disease, the war neuroses may be designated as "Neuroses" and "Psychoneuroses," and roughly divided into four general classes, between which occurs the same overlapping as is seen in the neuroses of civil life.

The psychoneurosis group includes those disorders in which mental forces or ideas of which the subject is either aware (conscious) or unaware (unconscious) bring about various mental and physical symptoms.

The classes mentioned are: Concussions, Neuroses, Neurasthenic or Psychasthenic type, Anxiety Neuroses and Hysteria.

Concussions justify the assumption of the existence of minute and more or less scattered lesions of the central nervous system, and may be accompanied by such symptoms as unconsciousness lasting from a few hours to several days, retention of urine, loss of knee jerk, blood in the spinal fluid, paraplegia, etc. Some patients of this class were reported having recovered perfectly within a few months; others, the ultimate outcome was not satisfactory.

The Neurasthenic type designates the fatigue neuroses, in which physical as well as mental causes evidently figure; characterized essentially by mental and motor fatigue and irritability, hypochondriasis and varying degrees of depression. The Psychasthenic type includes the phobias, obsessions, compulsions, morbid doubts, lack of confidence, nervous tension and terrifying dreams, with war content.

Under Anxiety Neuroses, morbid anxiety or fear is the most prominent feature. A general nervous irritability (or excitability) is regularly associated with the anxious expectation or dread; the heart's action is increased, there may be sweating, suffocative feelings, dizziness, trembling, shaking, and difficulty in locomotion.

Under Hysteria, we have mental attacks in the form of delirium, stupor or dream states, during which, repressed wishes, mental conflicts or emotional experiences detached from ordinary consciousness break through and temporarily dominate the mind. Briefly stated, a condition produced by suggestion and curable by psychotherapy. Among the symptoms that may be mentioned as being produced by suggestion are deafness, blindness, mutism and deaf-mutism, tremors, contractures, and paralyses. Some few of these (such as deafness and mutism), which are so closely connected in consciousness with states of terror and in which the original insult is in itself a powerful suggesting factor, come on immediately; but the development of the larger number is delayed for days and weeks during the period when the patients are rather suggestible and are exposed to suggestions.

A particularly interesting condition which first received detailed attention during this war, was a peculiar form of contracture, affecting the arms and legs—especially the feet and hands, which developed in sequence to some minor surgical injury.

Let us next consider the subject from the present day situation and the interest which the practitioner should take in these cases. The question confronting us and which should concern us most is, "Why are the cases of War Neuroses developing daily after practically three years have elapsed since the cessation of war activities?" Furthermore, the statement has been made that cases of neuroses will continue to develop among our ex-service men for a decade.

My answer is that the influence of suggestion plays the most important role. In the first place, the public and the press have taken a proper interest in our returned soldiers; likewise such governmental agencies as the Red Cross, U. S. Public Health Service, the War Risk Insurance Bureau, and the Federal Board of Vocational Training. All these organizations have been and continue active today in the interest of the men; the suggestion, therefore, continues: the actual

war experiences being less of a causative factor in the production of the present train of symptoms than the environment, which are further nurtured by response to the influence of the spirit of the times. My statements, of course, except such injuries which were received within the period of the war and which can be definitely measured or determined, such as fractures of the skull or the loss of a limb or an eye. The symptoms complained of mostly by those seen in practice belong to the order called functional or "conduct disorders"; a neurotic conduct disorder is maintained with the idea conscious or subconscious that some material advantage will be derived from it. We do not fully realize in this country what inestimable benefit France did herself and her soldiers by deciding that purely functional cases were not eligible for pension.

From my experience, the types of cases that come to the practitioner's office today are largely cases of Neuroses and Psychoneuroses of the neurasthenic, hysterical and anxiety types; with scattered cases of psychasthenia; dementia praecox of the simplex, catatonic, hebephrenic and paranoid types; Maniac Depressive—simple and depressed types; others with Residual Symptoms from shell concussion, head trauma, fractured skulls, having developed a traumatic constitution. In addition to the foregoing, a few cases of Residual, undifferentiated psychoses; Mental Deficiency; Constitutional Psychopaths, and Epilepsy without psychosis; also others in which there is a condition present due to early involvement of the lungs and cardiac diseases without definite neurotic or psychotic manifestations.

The symptoms most frequently complained of by those suffering from War Neuroses are nervousness, weakness, prostration, fatigue, lack of endurance, tremor of hands, headache, insomnia, irritability, dizziness, palpitation, sensation as if the heart would stop beating, pain in stomach, back, legs, feet and eyes; nausea and vomiting, unable to work, memory defect or forgetfulness, no ambition, easily startled, crowds cause nervousness, general tremor from unusual sounds and noises, emotional instability with depression, and loss in weight.

Let us for a moment compare them with the symptoms found in compensation cases, especially those with head injuries, and we will note some similarity; headache, vertigo, insomnia, irritability, anxiety depression, memory defect, fatigability, palpitation, and change in character. It is a picture

of general trauma neurosis or psychoneurosis with certain local head symptoms.

An element of importance and becoming more noticeable is the presence of acquired compensation neurosis. It now in a certain percentage of cases expresses itself as the predominant factor in a symptom-picture complex. This can be regarded, as already implied, as the outgrowth of the spirit of the times. The various attempts on the part of the welfare workers, however good their intentions, have unfortunately done much to foster that attitude. So much has been said about compensation for the ex-service man, his care and rehabilitation that the individual with feelings of inadequacy or real inadequacies naturally gravitates in the direction of least resistance, in which relief from responsibilities and the stress of life has been promised or may be assured. This is not at all a new aspect in human history. It might be well stated that a large part of charitable endeavor, by reason of its being miscondacted and misdirected, miscarries and not only falls short of its intent but actually does damage.

If the treatment of the War Neuroses and the Neuroses and Psychoneuroses, according to the war, is to be successful, before entering upon any course of procedure the first essential is to obtain as clear a conception as possible of the exact condition with which we have to deal. We should begin by making a careful study of the patient, inquiring not only as to his present symptoms, but also as to the time and nature of onset of each. This the physician following the homœopathic mode of treatment is more likely to do, for if he prescribes successfully he must study his patient as an individual in order to elicit the symptoms, and by so doing select the indicated remedy. For this reason no detail, however trivial, should be ignored; this applies more particularly to the case suffering from neurosis or borderline psychosis.

A methodical physical and neurological examination of the patient should never be omitted even in cases which from the onset appear to be perfectly simple. By following an invariable rule of systematic examination, not only do we guard against accepting some one else's diagnosis—which may be correct or otherwise—but the mere procedure of a thorough personal investigation has a beneficial suggestive effect on the patient. If we follow a well-designed, routine method of investigation, this part of the examination in a case of neurosis



takes up only a comparatively short time. But now and then it reveals new, unexpected and important clinical facts—perhaps unnoticed by the patient—which would otherwise have escaped notice, but which may decidedly modify our original opinion.

The general problems involved in the study of the ex-service cases is primarily the study and understanding of each case individually. These men, now in civil life, are in somewhat the same condition as they were in the army, where they had to start life anew, and now having returned to civil life many have had to take up a new occupation, and they had to start from the beginning a second time. A careful study of the personal history, supplemented by observation of cases, leads to the impression that one is not always treating a disease but a personality—many of these cases of neuroses and psychoneuroses are due to lack of adaptation to life, often caused in the war cases by a break in continuity and that we must concern ourselves not so much with the disease but with the personality, which fact is sometimes neglected. In treating the personality, one must adjust the individual to life in such a way that he can lead a healthy existence.

Under the head of therapeutic management of the so-called War Neuroses, the general methods as are usually recommended and adopted in special therapeutics are applicable. The first effort made toward the rehabilitation of these ex-service men is on the physical side, if any physical disease is at all apparent. In the treatment of these cases we should not be satisfied with the prescribing of the indicated remedy. My experience is: Attention to the details of the daily life of the patient, his environment, social—and in some cases—sexual life, as well as the use of simple adjuvants are of equal importance. The question of sleep, appetite, digestion, food, regulation of bowels, instruction as regards rest, especially a mid-day period, conservation of energy, use of morning tonic baths, and in some cases evening sedative baths, fresh air and exercise should not be overlooked. In many cases advice as regards occupation is important. Such efforts are supplemented by psychotherapeutic persuasion, suggestion and re-education; and all other practical methods should be applied and persisted in, together with work, amusements, diversion, recreation, and what other efforts seem to be indicated or are necessary to be instituted to remove or modify the patient's

malady or special difficulty. The final results, however, in these cases are very dissimilar. I am confident that in a number of them if we treated the man and not the disease, there would be many more restored to useful citizenship. The mere statement to the patient, "There is nothing the matter with you; get out and go to work" will make him worse. These men have received a profound impression on the subconscious memory, and it is necessary to show them how the impression is implanted; and by analyzing that with common sense we are likely to help these cases.

In conclusion permit me to emphasize that in the true neuroses and psychoneuroses do not overlook your indicated homœopathic remedy, of which the following are a few of those which can be relied upon as definitely beneficial when properly selected:

Arsenicum Alb.	Bryonia
Nux vomica	Cimicifuga
Nux moenchata	Hypericum
Ignatia	Aurum mur. or met.
Argentum nitricum	Abies nigra
Agaricus	Lycopodium
Belladonna	Gelsemium
Moschus	Phosphoric acid
Aconite	Picric acid

#### DISCUSSION

DR. WALTER W. SEIBERT, Easton: It is needless to say that I enjoyed the paper very much indeed. I know, living in the same locality as Dr. Klopp, that we have in him an exponent of homœopathy that I am not sure is equalled in Lehigh Valley. I have been privileged to watch his work at the Allentown State Hospital; and I believe that his use of the homœopathic remedy in his cases is along the lines that Hahnemann himself would have liked.

DR. HENRY I. KLOPP, Allentown, closing: In closing this discussion, I want to emphasize the importance of the general practitioner taking an interest in these cases. I have examined a number of them and devoted a great deal of time to their treatment—they are worthy of it. We must help them, and must use our own personality in doing so. Merely to look at them, and to say, "Forget it, you will be all right," will never help if they are true types of neuroses or psychoneuroses; you can help them by prescribing the indicated

homœopathic remedy. The giving of definite advice, outlining a course of treatment along lines of modified rest, exercise, occupation and hydrotherapeutic and psychotherapeutic measures makes them feel that you know something more than the homœopathic remedy. These little adjuvants are important, and will assist in gaining the confidence of the patient.

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### **HOMŒOPATHIC PRESCRIBING IN DISEASES OF CHILDREN**

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(Read before the Homœopathic Medical Society of the County of New York,  
October 13, 1921.)

THE subject of homœopathic prescribing in diseases of children is one which merits more attention than we are in the habit of giving it in our medical society meetings. The *materia medica* is rich in symptomatology applicable to the various diseases of children and the results obtained in pediatric practice with the homœopathic remedies when carefully prescribed are so uniformly excellent that the merits of homœopathy in pediatry are quite generally recognized. The popularity of the homœopathic treatment of diseases of children does not depend upon the fact that homœopathic medicines are easy to give to a child because of their small dose but the laity and the old school profession as well have become convinced by the results which homœopathy has attained. Let us, therefore, do everything in our power to popularize the homœopathic treatment of the diseases of children by pointing out the advantages of homœopathy and by making it possible for those who desire to become students of homœopathy to acquire a practical knowledge of homœopathic prescribing.

Prescribing homœopathically for children presents certain apparent difficulties which are not met with in prescribing for adults. Infants and young children are unable to tell us concerning their pains, discomforts and sensations and when they are old enough to answer our questions the answers frequently prove misleading. Pains are often incorrectly located and their location must be ascertained by our clinical skill. Such modalities as aggravation or amelioration from rest or motion; from hot or cold applications; from pressure and from lying upon the affected side; and such symptoms as nausea, thirst, photophobia, sore throat, tenesmus, etc., cannot

be elicited by questioning the little patient. However, they can all be recognized by careful observation. My own experience leads me to the belief that the fact that we must obtain the symptoms for a prescription through personal observation instead of through questioning the patient is in reality an advantage instead of being a handicap.

The selection of the homœopathic remedy should be made by a process similar to that employed in arriving at a diagnosis. First of all we should endeavor to determine the seat of the trouble and the nature of the pathological process which is responsible for the symptoms present. In acute illness there may be an infection with predominance of local or general manifestations. Fever will be present in all of these conditions. When upper respiratory symptoms predominate *aconite* and *gelsemium* are indicated. They must be differentiated by the appearance of the child; in the case of *gelsemium* it is heavy and listless, there is general aching and lassitude as in grippe and the fever is not high. In the case of *aconite* the fever is high and is ushered in with a chill; the patient is anxious and restless and tosses about from side to side. The feel of the skin may be deceptive as to the degree of fever present. In cases in which *aconite* is indicated the body surface may feel cool especially during the chilly stage while the rectal temperature may register 103 to 104; the *belladonna* case, on the other hand, owing to dilatation of the cutaneous vessels, presents a hot body surface and the child may appear to have a very high fever when in fact the rectal temperature will register lower than in the former instance. *Gelsemium* is indicated in simple coryza and grippe cases while *aconite* is more suited to the beginning of bronchial and pulmonary inflammations. When throat symptoms dominate the clinical picture *belladonna* will suggest itself rather than *aconite*; if joint symptoms are present we will incline to *bryonia* rather than to *aconite* or *belladonna*. Fever alone is, therefore, not sufficient clinical basis for a prescription and that is why the homœopath gives *aconite* in one case, *belladonna* in another and *gelsemium* in still another type of case.

The appearance and behavior of the child are of great help in prescribing. It may be pale or flushed; the skin dry or moist, bathed in perspiration; it may lie with its face buried in the pillow, or turning from side to side, or carefully maintaining a fixed position on one particular side. It may lie flat

on its back and make no effort to move. These are all symptoms which suggest certain remedies just as they suggest certain clinical conditions.

Gastro-intestinal symptoms, which are purely due to dietetic errors are of little significance from the standpoint of the prescriber because the correction of the diet is all that is necessary. Such symptoms as the vomiting of tough curds or the passage of curds in the stools; colic; constipation and simple diarrhea promptly disappear when the milk is properly modified and given in the right amount and at the right intervals of feeding. When, however, the dietetic factor has been active long enough to bring about an inflammatory reaction in the mucous membrane of the gastro-intestinal tract or when infection is added, then a condition arises in which it not only becomes necessary to remove the cause as far as we can by a strict regulation of the infant's food, but we must also prescribe for the symptoms which have associated themselves with the dyspepsia. The same holds good in the case of the dyspeptic and nutritional disturbances which result from prolonged improper feeding. The food intolerance; the diarrhea or constipation; the pallor, fretfulness and emaciation present in these cases are symptoms which call for a so-called "constitutional" remedy.

In the acute digestive disturbances there may be a predominance of local or of general symptoms as in the case of the infectious diseases. When vomiting is a predominating symptom *ippecac* is suggested as the remedy; in the case of a simple diarrhea with undigested food particles *chamomilla* will be thought of. The character of the stool, however, must be carefully studied in order to make an accurate prescription. Thus, frequent, large, yellow or greenish liquid stools, expelled with gas and causing excoriation of the buttox call for *podophyllum*. Greenish stools containing mucus and curds with marked peevishness; distended abdomen and colic is a mild dyspeptic condition usually observed in teething infants and relieved by *chamomilla*. Intestinal disturbances with colicky pains, relieved by pressure, are helped by *colocynthis*. This symptom is elicited by observing that the infant is comforted and stops crying whenever the nurse lays it on its stomach, across her lap. In the case of *chamomilla* the child is promptly comforted by being carried around. When the stools contain mucus and blood, indicating an infectious diarrhea,

*mercurius sol.* is indicated. Other remedies beside *mercurius* present these symptoms and must, therefore, be differentiated. When there is vomiting and marked prostration *arsenicum album* comes to our mind. When tenesmus is pronounced *mercurius corrosivus* is better indicated than *merc. sol.* Cases with marked toxemia will suggest remedies like *belladonna*, *cubrum ars.*, *helleborus* and *rhus tox.*

In prescribing for the acute respiratory affections a knowledge of the pathology of the condition under treatment is necessary in order to select the proper remedies. This holds good in almost all diseases, and whenever the selection of a remedy is based on drug pathogenesis, instead of on subjective symptoms, the prescription is bound to be more accurate and the results will be better. Subjective symptoms and certain modalities are unquestionably useful in prescribing, but their use is chiefly to differentiate between a group of remedies, all of which have a similar pathological relationship to the case under consideration. This point is particularly well illustrated in the pneumonias. There are two well-known types of pneumonia, the catarrhal type or bronchopneumonia and croupous pneumonia. The remedies which are most frequently indicated and useful in the catarrhal type are those which affect chiefly the mucous membrane and set up catarrhal inflammations. The most important members of this group are *belladonna*, *ippecac*, *mercurius* and *tartar emetic*. In lobar pneumonia we must turn to a different group, namely, one whose pathology corresponds more nearly with that of vascular engorgement and croupous exudation and *aconite*, *bryonia*, *iodine* and *phosphorus* come to our mind.

*Belladonna* is a most useful remedy in the early stage of bronchopneumonia indicated by the dry, paroxysmal cough, high fever with flushed face and cerebral excitement. Many capable clinicians believe that when *belladonna* is used early a large number of cases of bronchitis can be aborted and that the extension of the process into the finer bronchi and air cells can be arrested. This, however, is a matter of personal opinion.

*Ipecac* is indicated when the catarrhal symptoms predominate and when the chest seems literally filled with mucous secretion. The cough is associated with gagging and vomiting of mucus. When the secretion accumulates in the finer tubes the clinical picture of a capillary bronchitis develops.

Cyanosis gradually develops and the child is no longer able to discharge the secretion from the bronchi and the mucus collects in the larger tubes, producing coarse rattling rales. At this stage of the disease *tartar emetic* is indicated and it may still help us to pull the case through unless circulatory failure and pulmonary edema supervene.

*Bryonia* occupies the unique position of being the most generally useful remedy in all forms of acute respiratory disease. It causes inflammation of the bronchi, lungs and serous membranes, and its symptomatology covers the most important clinical features of the majority of cases of bronchitis and pneumonia. There is a hard, deep, non-productive cough which is painful and which is made worse by talking, drinking, or bodily exertion. The child, therefore, lies quietly and resents being moved or disturbed. There is fever, headache, mild delirium, irritability and great thirst. The bowels are constipated. When pleurisy develops as a complication *bryonia* is still the best remedy for the case.

*Scilla maritima* is useful in the severe types of bronchopneumonia with hard, painful cough. The cough is more paroxysmal than that of *bryonia*, there is free secretion in the bronchi as indicated by an abundance of moist rales over the bases of the lungs and there is more prostration than in a *bryonia* case.

In croupous pneumonia we think of *aconite* in the first stage which is of sudden onset with chill or its equivalent; the child is excited and restless, and chest symptoms may be slight or wanting. If there is cough with the characteristic blood-streaked sputum, *ferrum phos.* is the remedy of choice. Pleuritic involvement calls for *bryonia* and it may be alternated with either *aconite* or *ferrum phos.* *Bryonia* is also indicated as soon as consolidation develops. *Phosphorus* is useful in the graver types of pneumonia with toxemia, pulmonary congestion and dyspnea; expectoration of pure blood. *Hyoscyamus* is indicated in the cerebral type simulating meningitis.

A remedy which has been of great help to the homœopath in the treatment of poliomyelitis and lethargic encephalitis is *gelsemium*. The symptoms recorded in the provings and toxicological reports of this drug are very characteristic and correspond closely with some of the leading clinical manifestations of the disease mentioned. I am sure that we have all had occasion to see the good effects of this remedy in the cases of

poliomyelitis which have come under our notice. In spite of the claims made for the efficacy of immune horse serum in this disease I cannot see that they are sufficiently striking to make a better showing than homœopathic treatment.

The so-called constitutional remedy is one of the homœopathic pediatricist's chief assets. There is no longer any doubt in the minds of either school of medical practitioners that certain types of individuals are susceptible to certain diseases and that some react more strongly to certain drugs than others do. Vagotonia and sympathicotonia are terms which our old school colleagues recognize and understand, but before these terms were introduced into medicine the observations made by homœopathic practitioners that certain individuals were hypersensitive to certain drugs and that small doses of such drugs administered to a susceptible individual would produce a striking drug effect, were rejected as absurd and unscientific. Likewise the homœopath's insistence upon the importance of diathetic or constitutional abnormalities, or the dyscrasiæ, as we called them, was ignored. The dominant school, however, now recognizes many such dyscrasiæ; for example, exudative diathesia, lithemia, spasmophilia, scrofula and status lymphaticus.

In the homœopathic literature it has been the custom to refer to a certain type of child as representing a certain remedy. Thus, we read of the *calcareo carbonica* baby; the *sulphur* patient; the *pulsatilla* female. This method of expressing a certain therapeutic idea has, no doubt, provoked mirth in the uninitiated minds of our old school colleagues. However, the idea is a good one and the point which our materia medica teachers have attempted to make by this verbal formula is to present a mental picture of the clinical sphere of the drug. When they describe the *calcareo* child they draw a clinical picture of the type of child which needs *calcareo carb.*—the fair complexioned, fat infant with poor muscular tone, open fontanel; delayed dentition; sweating about the head; large belly; large, pale, constipated or sour dyspeptic stools. There should be no question in anyone's mind that a remedial agent which will improve the calcium metabolism of such an infant will be the best possible thing for it and calcium given in the finely-divided form of a homœopathic trituration stands a better chance of doing this than crude doses of lime salts.

The clinical type described under the iodine syndrome is an infant in the first stages of *athrepsia*, and if any remedy



can benefit such a case iodine is the one most likely to prove helpful. The keynote symptoms of graphites and sulphur will be encountered in infants presenting the exudate diathesis. The endocrinologist has gone, perhaps, further than the homœopath in his classification of individuals into certain types or "tropes" to indicate which one of the organs of internal secretion is at fault. When a child presents distinct evidence of an endocrine disturbance the clinical results from the administration of the proper glandular substance should give better results than the administration of a drug. Unfortunately, however, the results from this form of medication are not striking excepting in the case of thyroid deficiency. In anaphylactic conditions the removal of the offending protein is the only proper therapeutic procedure. The constitutional remedy is still, therefore, a most important therapeutic agent and a further study of the *materia medica* in this direction, from the modern standpoint, offers a promising field in pharmacology research.

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### THE STIFF AND LAME SHOULDER

JOHN A. BROOKE, M.D., PHILADELPHIA

(Read before the Homœopathic Medical Society of the State of Pennsylvania, September 15, 1921.)

THE anatomy of the shoulder joint, especially the bony formation, is not that which would stand for stability or firmness. The shallow glenoid of the scapula and the rounded head of the humerus imply freedom of motion and not security. The ligaments do not maintain the joint surfaces in apposition because, when they alone remain, the humerus can be separated to a considerable extent from the glenoid cavity; their use is to limit the amount of movement; their support is slight. The upper portion of the joint is protected by an arched vault formed by the under surfaces of the coracoid and acromion processes and the coraco-acromial ligament. The articular surfaces are covered with a layer of cartilage, which on the head is thicker at the center than the circumference; the reverse being the case in the glenoid.

The joint itself is protected against displacement by the tendons surrounding it and by the tone of the muscles attached to them and those covering the joint. That dislocation

of the shoulder is not more frequent demonstrates how wonderful are the mechanism and muscle balance that maintain the normal relationship of the two bones entering into the formation of this joint. The bony formation being so poor from the viewpoint of mechanics, one need not wonder that the soft structures are rather frequently traumatized.

Many bursæ are interposed between the tendons and muscles surrounding the joint; these are frequently irritated and inflamed, and occasionally the seat of limy deposits.

The shoulder joint is capable of movement in every direction: Forward (flexion), backward (extension), adduction, abduction, circumduction and rotation.

It may not be amiss to mention some of the muscles called into play with the certain movements at the shoulder joint. The humerus is drawn forward by the pectoralis major, anterior fibres of deltoid, coraco-brachialis, and biceps when the arm is flexed; backward by the latissimus dorsi, teres major, posterior fibres of the deltoid and triceps when the forearm is extended; adducted by the subscapularis, pectoralis major, latissimus dorsi, and teres major; abducted (elevated) by the deltoid and supraspinatus; rotated outward by infraspinatus and teres minor, and rotated inward by subscapularis, latissimus dorsi, teres major, and pectoralis major.

Certain movements at the shoulder joint, particularly abduction, are enhanced by the movements of the scapula.

Because of its exposed position and the bony insecurity, the shoulder joint and the tissues surrounding it are liable to injury which leaves in its wake the stiff and painful shoulder. It is easy to realize how adhesions may form after rupture of the capsule or ligaments, the tear of the muscle fibres or of their origins or insertions, or from blood extravasation into tendon sheaths. Adhesions may be intra- or extra-articular. Stiffness may also be due to adaptive muscular shortening or to loss of resiliency in the sheaths surrounding the muscle.

Fixation of a healthy joint over a long period of time, such as is necessary in treatment of certain fractures, will result in a temporary stiffness usually due to adaptive shortening of the soft structures. This can usually be corrected by massage and gentle manipulation.

Stiffness of the shoulder joint follows sprains of the shoulder and injuries with the above mentioned pathology; fractures of the anatomical or surgical neck of the humerus

or separation of the tuberosities; fractures of the outer end of the clavicle, or of the glenoid, or of the neck of scapula, or from reduced dislocation of the shoulder; from irritation and inflammation of the numerous bursa about the shoulder joint. It also follows certain types of arthritis.

Another cause of pain and stiffness at the shoulder joint, first described by Sir Robert Jones and later elaborated on by Mennell, is the injury to the joint cartilage caused by stubbing. The individual falling on the shoulder or outstretched hand, the force is transmitted to the joint. The cartilage being avascular and without nerve supply, there is no pain at this point for three or four weeks. Then the vessels from the periphery find their way to the injured part for repair, they are accompanied by nerve filaments, and at this time the shoulder joint becomes painful on movement. A period of rest of the part for a period of three or four weeks during the process of repair is all that is needed. If motion is persisted in, the parts are irritated and pain continues a long time.

A painful shoulder may be due to an involvement of the brachial plexus or to inflammation or irritation of any of the individual nerves traversing the shoulder joint. Also lesions of the head of the humerus, such as growths or bone disease; tuberculous or other forms of arthritis; these latter conditions are not included in this paper. Injury to the circumflex nerve is soon followed by atrophy of the deltoid.

The symptoms accompanying a peri-arthritis of the shoulder joint other than the limitation of motion which is most marked in abduction and external rotation, are dull pain about the joint and sensitiveness to pressure just below the acromion, or one-half inch external to the coracoid, or along the bicipital groove. There is occasionally some fullness on the anterior aspect of the joint. The pain is increased by motion, especially sudden movement and jars. The patient is often unable to lie on it at night. The pain occasionally extends down the arm. These symptoms, if there is no distinct history of severe injury, often pass as rheumatism, but there is no fever, no involvement of other joints, no swelling.

The treatment of these shoulder conditions must be governed by the diagnosis. Sir Robert Jones, speaking of these shoulder conditions, says: "One of the difficult problems presented to surgeons is the decision as to when a stiff joint is to be moved and when it is to be rested. In other words, the

diagnosis between a joint rendered stiff from active or even mild arthritis, and a joint hampered in its movements by adhesions or adaptive muscle shortening."

We know that attempts at moving arthritic joints lead to greater stiffness in consequence of the inflammatory reaction; a differential diagnosis is, therefore, necessary.

A painful joint which is rigid in all directions is the seat of an arthritis, while a painful joint which is rigid in certain directions only is free from arthritis.

In the acute and painful stage the arm should be at rest and supported by adhesive strapping and sling. Often tension on the sensitive part is relieved by placing the arm in abduction. As soon as the acute symptoms begin to wane, massage, baking, active and passive movements are of great value. In many cases soon following injury it will be found that passive movement can be carefully carried on almost painlessly when active motion is painful. This is especially so when the injury is a tear of muscle fibres or their fibro-tendonous attachment and the movement of the part is such as to not put a tension on the injured area.

If effusion takes place in a joint after manipulation it is suggestive of rupture of intra-articular adhesions. Manipulation may be continued unless followed by diminution of range of movement. If this diminishes, the joint requires rest.

In cases of longer standing in which motion is much restricted apparently by firm adhesions outside the joint, it is necessary to resort to greater force in manipulation; sometimes under an anesthetic. Our experience has shown that this procedure is of very little value as the reaction is severe, the joint and surrounding tissues painful, so that when movement can be started again the adhesions are nearly as firm as before. We believe that, to secure the freedom of movement, it is necessary to gradually but continuously stretch the contracted tissues and force must be continually applied in the direction of abduction and external rotation. This can be accomplished by a shoulder brace of the type shown, which can be adjusted from day to day to give the desired abduction, and every bit gained is held because the brace is worn night and day and the constant stretch overcomes the contraction. We believe the maintenance of the arm in a position of considerable abduction during the recovery from injury to the tissues in and about the shoulder joint materially lessens the period of disability by

preventing contractions and maintaining the tone of the deltoid which is lost when it is put on a stretch for a long period of time. An exception to this position would be an injury to the latissimus dorsi and teres major at their point of insertion near the bicipital groove. The arm then should be held at the side.

Irritated and inflamed bursæ about the shoulder joint—the most frequent the sub-deltoid—require massage, baking, the restoration of full movement in abduction, and occasionally incision and dissection of the walls of the sac; also the removal of any calcareous deposits that may be present.

### DISCUSSION

DR. MARY E. COFFIN, Pittsburgh: Any fall on the arm which would injure the shoulder joint to any extent will also rack the spinal column and cause impingements on the nerves that are responsible for the subsequent pain in this condition. Recently I had a case of similar type, in which there was no glenoid or other bony involvement, but much pain. The arm and shoulder had been subjected to strapping, antiphlogistine and other measures, without effect; but simple adjustments of the upper dorsal and lower cervical vertebrae produced immediate relief and a few repetitions of the treatment resulted in a permanent cure. Any involvement of the spinal column will interfere with the rapid progress that these cases should make.

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THERAPEUTICS OF THE THYROID GLAND.—Clement Dukes reports a case of paroxysmal tachycardia relieved by parathyroid substance. The patient was perfectly healthy between attacks, in fact Dukes remarked that the case was rather suggestive of cardiac epilepsy. For some reason he gave 1/10 of a grain of parathyroid gland three times daily, as a result of which she has been free from her distressing symptoms for several years. She had been having the paroxysms once or twice a week. His second case was that of an elderly lady whose diet represented as the author thought, a decided calcium deficiency. Accordingly he gave her calcium lactate with some benefit. Then he thought of parathyroid gland, because of its control over calcium metabolism, as even more efficient. The result, confirmed the theory. The dose was 1/10 of a grain each evening.—*British Medical Journal*, December 10, 1921.

## EDITORIAL

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### THE TEETH AS A CAUSE OF DISEASE

THE interest excited of late years respecting the role of the teeth as a cause of disease is but a revival of a subject that was looked upon with importance fifty years ago. In the early eighties Samuel Sexton, an eminent aurist of New York City, published a paper in the *New York Medical Record*, making a plea for investigation of the teeth in the production of chronic aural discharges. Numerous cases were cited where carious teeth, or teeth with defective roots were extracted with prompt recovery of the ear trouble. Sexton's experience was confirmed by other aurists, although none of them exhibited his degree of enthusiasm. The rationale of the teeth as a cause of disease, however, was in keeping with the theories of the day, namely their remarkable influence in producing irritation in the area of distribution of the fifth nerve. To-day we make focal infection the etiologic factor.

Furthermore, it has been known for years that sound healthy teeth constituted an important item in the maintenance of good digestive efficiency. Sound teeth mean a relatively clean mouth and good mastication. Digestion being an important preliminary to general health, it was not a far move to the theory of the English clergyman who determined to get rid of inebriety among his congregation by employing skilled dentists to maintain the teeth of his parishioners in good order.

We have all, for years, admitted without question that carious teeth and suppurating gums must exert a deleterious influence on the health. Under normal circumstances the mouth is rich in bacteria, most of them non-pathogenic; in the presence of carious teeth or diseased gums, or both, it is conceivable that the flora of the mouth may be greatly increased in numbers and variety, as well as existent in very dangerous types. When one takes the trouble to analyze the state of the mouth in many persons, even those alleged to be in good health, he wonders that such individuals are able to exist at all with so much dirt at the gateway of the digestive tract.

It is not unreasonable to assume, although it cannot be proven, that such pronounced changes in the mouth may account for chronic nephritis, chronic heart disease, early arterial degeneration, to say nothing of other things.

The main interest attached to the teeth as a cause of disease among modern practitioners of medicine, rests upon the frequency of minute apical abscesses which in turn form foci for the dissemination of infection in distant parts of the body, especially, however, in arthritis. Clinical application of the theory has resulted in many cures of obstinate joint troubles. It has also resulted in many failures. Clinical analysis has also demonstrated that such teeth may be a very important cause of an indefinite ill health, so indefinite that the patient finds his departure from normality to be indescribable.

Like every new discovery there is no doubt but that the teeth as the cause of disease has been grossly exaggerated. This statement is absolutely undeniable; but this fact should not prevent us from advising attention to the teeth whenever any abnormal condition, whether obvious or occult, exists. The necessity for attention to caries, pyorrhoea and deformities appeals even to the uninitiated. A focal infection may be harmless for the time, but one never knows when it may become active. One must not exaggerate the danger of these focal infections, because in all probability the vast majority of them are innocent. Fifteen hundred consecutive cases were studied at the Mayo Clinic, with reference to the relationship between the teeth and constitutional disease. Of this number 90 per cent. showed roentgenological lesions. Now it is perfectly absurd to claim that 90 per cent. of constitutional disease is due to the teeth; that only means that the teeth were found diseased, and as they were diseased the pathology required correction.

The reader must not concede that 90 per cent. of illness is due to bad teeth. The human machine is greatly libelled by modern investigators. Ninety-five per cent. of us are alleged to need eye glasses; 98 per cent. are, or have been, tuberculous; 15 per cent. syphilitic; 100 per cent. dyspeptic. We opine that other percentages might be resurrected to prove in the aggregate that humanity is worse off than the poor worm with which the clergy has long compared us.

**CONCERNING CHANGES OF BY-LAWS**

THE Constitution and By-Laws of a Society constitute a strict contract between the Society as a body, and the individual members thereof, the latter binding themselves to observe the provisions as already existing, and as matters of record at the time of assuming membership. Inasmuch as times must change, new circumstances must arise. To keep in step with the line of improvement by-laws must be changed from time to time, as necessity demands. Wisdom and experience have decreed in the past that such changes should be made only after due deliberation, and only decided by the electorate by a decisive majority, a two-thirds vote in favor of the amendment usually being required, together with one year's notice as to the same. Some associations permit a suspension of the by-laws to cover a special case at a given meeting, without, however, binding subsequent sessions of the Society to the action then taken. Necessarily such action establishes a precedent, and even though it be over a very trivial matter the precedent can be made a very dangerous one, as being adaptable to other conditions which were not originally thought of when the by-laws were suspended. Again, suspending the by-laws becomes doubly dangerous as having been done once, is likely to be done again, eventually becoming epidemic and resulting in a state of almost supreme lawlessness. When constitution and by-laws reach the epidemic stage of suspension by unanimous vote of those present, there is something radically wrong with the organization's government which should be corrected. In our opinion, the trouble originates in by-laws having out-lived their usefulness, and the Society not having either the enterprise nor the initiative to foresee necessities, permits them to go along indefinitely until an immediate change is forced, to the extent of a necessity or a crisis.

By-laws constitute a contract; we believe that the protection of the members demands that they should be changed with difficulty, or after due deliberation, and by a decisive majority. We believe that the present method of modifying by-laws can be modified quite considerably without lessening the protection given to the members under their initial contract. Circumstances suggesting the propriety of an important



change may come up, and are incapable of definite action for a time ranging from one to two years, and sometimes for longer. We might specify a change that has been suggested in the Pennsylvania by-laws, namely, that homœopathic physicians who are now members of the United States Regular Army and Navy service, whose homes are in Pennsylvania, or who are assigned to duty within the confines of the State, shall be placed on an army and navy roll of membership, and shall be exempt from payment of dues. Notice to this amendment was given at the Bedford meeting in 1921, and action can be taken thereon in September, 1922. The amendment is a most excellent one; aside from patriotism and a testimonial to the Government, it keeps in touch with us many very valuable physicians with whom we cannot possibly dispense. We have had two or three resignations from Pennsylvania, because the member has joined the regular army or navy; we also have several officially connected with the army or navy who have retained their membership. We believe that every society of our school in the country should make a move looking to the retention of the affiliation of our army and navy medical officers with us. As by-laws go, however, no society outside of Pennsylvania can take definite action on the above matter before 1923.

To overcome these long delays we advocate an adherence to the principles rather than to the letter of the rules permitting change of by-laws. What is wanted is really due publicity in advance, thus permitting every member of the Association to know what is about to take place, so that he can voice his views on the subject; so that he can advise those who attend the meeting as to his feelings. When a society publishes a journal it should be sufficient to give such notice at least three months in advance, so that protests may be published in issues of the journal intervening between the publication and the time of the annual session. Where journals are not published circular letters should be sent out. In all cases those who are backing the proposed change should be definitely named.

We sometimes feel that we are hampered by by-laws in view of some apparent emergency. Perhaps said emergency has arisen very unexpectedly, and we have not had the opportunity for study of it from all points of view. If we act impulsively under such circumstances we may act unwisely. If we let the matter slumber for awhile or deliberate care-

fully we may in the end feel that our early impulses were absolutely wrong, and that the old by-law, after all, should stand.

One thing is absolutely certain, however, namely that change of by-law by suspension of the rules is a very dangerous expedient at all times, and one single mistake by making use of the emergency under the impulse of the moment, may wreck an association irretrievably. Especially is it dangerous when enacted by a bare quorum amounting possibly to less than 5 per cent. of the corporate body, and we are sorry to say that this has at times been done in various societies, medical or otherwise.

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#### A HOSPITAL LOST

FROM the January issue of the *Journal of the American Institute of Homœopathy* we learn that the Hahnemann Hospital of Rochester is lost to the homœopathic school. The etiology of the disaster is stated in the *Journal* as first the acceptance of old school membership on the staff; later the addition of other physicians from the same school, and finally a change of name from the Hahnemann Hospital to the Highland Avenue Hospital.

The change of name would not have been so significant had a hospital bearing the name "Homœopathic" taken this step, because with the new platform such a change of name is absolutely necessary. When, however, the Hahnemann Hospital changes its name that change is a direct slap at scientific medicine, as well as to the homœopathic school. Perhaps we might say it slaps scientific medicine much more than it does homœopathy. We are not sure but that it is a sad reflection on the logical powers of those who made the change.

Originally Hahnemann was a regular physician of high standing and great scientific attainments. He became a reformer; his ideas were decidedly antagonistic to those of his day. He was one hundred years or more ahead of his time. Unfortunately the illiberality of his day led to the ostracism of himself and his followers, with the enforced formation of homœopathic societies in all localities where the Hahnemann views were held.

For many years, thirty-two in fact, the followers of

Hahnemann organized no homœopathic societies. Necessity, and necessity alone, drove them to it. Today Hahnemann is recognized by the intelligent physician as a great medical reformer, indeed, as the greatest in the line of advancing therapeutics of all times. His fame will almost certainly continue when the names of others are completely forgotten. The name Hahnemann, therefore, is in no sense sectarian.

In the old New York fight of the 80's, the adherents for the amalgamation of the schools distinctly stated that the designation "Hahnemann" did not carry with it a sectarian title, but the respect of the medical body for a man who had been a great benefactor to the world.

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DAILY VARIATIONS IN THE BLOOD PRESSURE IN HYPERTONUS.—Kylin (Zentralbl. f. inn. Med., May 28th, 1921) having observed that the blood pressure in various forms of Bright's disease was liable to periodical variations, made a series of observations morning and evening with Riva-Rocci's sphygmomanometer. In order to obtain an independent idea of the physiological variations of the blood pressure, observations were first made on 10 patients who showed no symptoms of renal or vascular disease. The blood-pressure charts in these cases showed only slight changes from day to day, not exceeding 5 to 10 mm. Hg. The morning readings were usually lower than the evening ones. In mild cases of contracted kidney, on the other hand, the blood-pressure curves were quite different. The changes from day to day were considerable, often being 50 mm. Hg. in the course of twenty-four hours. Kylin thinks that these great variations from day to day can only be explained by a functional construction in the vascular system. He points out that now that it has been established that the blood pressure is so liable to change, it is not sufficient to measure it, as before, once or twice a week, or even every morning or every evening, but in every case of hypertonus it should be measured both in the morning and evening until a definite idea of the extent of the daily variations has been obtained. In acute glomerular nephritis, the blood pressure is quite different from that in mild contracted kidney. In some cases the rise of blood pressure is considerable and in others fairly slight. The variations from one day to another are relatively small, although greater than under physiological conditions.—*British Medical Journal*, October 15th, 1921.

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INTRA-SPINOUS TREATMENT OF NEURO-SYPHILITIC PATIENTS.—Grant Marthens presents the following conclusions: "1. All cases of neurosyphilis should receive the benefits of intensive intra-spinal therapy. 2. The incidence of improvements after treatment is greater than the ordinary remissions characteristic of paresis. 3. Paretics show a greater degree of improvement after the administration of mercurialized serum than of fortified salvarsanized serum. Mercurialized serum seems to be contra-indicated in tabo-paretics.—*Ohio State Medical Journal*, January, 1922.

## GLEANINGS

### MEDICINE.

Conducted by CLARENCE BARTLETT, M.D.

**SYPHILIS OF THE MEDIUM AND SMALLER ARTERIES.**—As is well known, Warthin has been making most radical discoveries concerning the far reaching influence of syphilis upon the cardio-vascular system. Thus far his publications have related mainly to the myocardium and to the aorta. Previous authors have taught that the influence of syphilis upon the small vessels is virtually nil. Warthin shows, however, that 90% of patients dying in the tertiary or latent stage of syphilis exhibit an incidence of arterio-sclerosis twenty-five times greater than the non-syphilitic during middle adult years. These changes are shown especially in the renal, splenic, mesenteric, prostatic, coronary and cerebral arteries. Thus far there has been comparatively little evidence to prove that the arteries of the extremities are greatly affected. Warthin's investigations prove, however, that the iliacs and femorals are involved in all cases where there is a pronounced syphilitic nesaortitis. He furthermore shows that most extensive disease of these vessels may exist without clinical signs of syphilis elsewhere, and the syphilitic lesion in these vessels may be much more marked than those in the aorta. He has observed cases of gangrene of both legs in consequence of such involvement. Of syphilis of the arteries of the upper extremities he expresses no knowledge. He believes the fundamental condition to involve the vasa-vasorum. He then concludes as follows: "Simple arteriosclerosis (hyaline thickening of the intima) of the medium and smaller arteries is more common in syphilitics than in non-syphilitics. It is probably not due to the localization of spirochetes in the intima, but is of secondary origin (toxic or mechanical). Syphilitic periarteritis, panarteritis, and arteritis obliterans of the smaller arteries occur in all cases of chronic and latent syphilis, in greater or less degree. Syphilitic mesarteritis is essentially a disease of the arterial vasa-vasorum. Syphilitic lesions of the smaller arteries are always associated with localization of the infection in any organ or tissue. The lesions are rarely gummatous in character. Syphilitic mesarteritis occurs in the carotids, subclavians, iliacs, femorals, tibial and pulmonary arteries. It is usually of slight degree, and is found only on microscopical examination. Occasionally it expresses itself clinically as aneurysm of these arteries, or in circulatory disturbances due to obstruction of the arterial lumen. Syphilitic obliteration of the pulmonary arteries may lead to the production of Ayerza's disease (chronic cyanosis, polycythemia and splenomegaly). Clinical syphilis of the peripheral arteries of the extremities is more common in the legs and feet, manifesting itself in gangrene, perforating ulcer, sclerosing atrophy, or symmetrical gangrene simulating Raynaud's disease. Little is known of the occurrence of syphilitic lesions in the arteries of the arms. Syphilitic arteries may be a cause of peptic ulcer, or pemphigus, localized ulcers, atrophy and various forms of dystrophy, due to disturbed

circulation, as the result of partial or complete obstruction of the lumen of the affected artery. Syphilis of the smaller arteries and arterioles plays a very important part in paresis, tabes and cerebro-spinal syphilis, and in the production of localized degeneration of brain and cord. Syphilis of the coronary arteries is also of clinical importance. In general, it may be stated that localized syphilis of the smallest arterioles is an essential part of the general pathology of chronic or latent syphilis.—*New York Medical Journal*, January 18, 1922.

**DEATH OF THE HEART IN DIPHTHERIA.**—S. Calvin Smith reports a fatal case of heart failure in a diphtheritic child, who had not received, prior to hospital admission, a dosage of anti-toxin. The state of the heart on admission was presaged a fatal issue. Anti-toxin was administered, however, and its results checked off by electrocardiographic observation, the result of which proving, as far as one case can go, that the anti-toxin had a most beneficial temporary influence upon the cardiac action, although the patient died, as was expected.—*New York Medical Journal*, Jan. 18, 1922.

**THE SHOULDER PHENOMENON IN TUBERCULOUS MENINGITIS.**—Tronconi (*La Pediatria*, September, 1921) gives his experience in testing a symptom first described by Binda and believed to be almost pathognomonic of tuberculous meningitis. The symptom failed in a large number of healthy children and was present in seven cases of tuberculous meningitis (corroborated by the autopsy). The sign in question consists in a sudden raising and forward projection of the shoulder in succession to a rapid passive rotation of the head to the opposite side. Light pressure with the hand on the head should be used until a certain amount of muscular reaction is induced, and then the head should be turned rapidly to one side. Seeing the difficulty of diagnosing tuberculous meningitis in children, especially in its early stages, any sign which gives help in this direction is worth noting.—*British Medical Journal*, December 3, 1921.

**ACUTE OEDEMA OF THE LUNG.**—Lemoine (*Gaz. des prat.*, October 15, 1921) remarks that many causes have been invoked to explain the origin of attacks of acute oedema of the lung, the usual cause assigned being hypertension. Exceptions to this rule, however, are frequent. Fiessinger has observed acute pulmonary oedema in patients whose blood pressure was not excessive, and even in subjects with normal tension. Lemoine has made similar observations, and alludes to a case of renal sclerosis with a moderately high blood pressure who had three severe attacks of oedema of the lung before death. The attacks are most liable to be brought on by errors of diet. Lemoine attributes special importance to food rich in cholesterin, a substance which becomes deposited on atheromatous patches, where it causes an irritation of the nerve fibres. As regards treatment, all authorities are agreed as to the immediate necessity of blood-letting. This should be followed, as Huchard advises, by subcutaneous injection of caffeine, beginning with 0.25 cg., and repeating it once or twice if necessary. Lemoine disapproves of Fiessinger's plan of injecting small doses of morphine or digitalin, which tend to exhaust the cardiac contractility, but recommends strophanthus, which has a tonic action on the fibres of the exhausted ventricle without any ill effects. Injections of camphor oil,

with or without simultaneous injection of adrenaline, are also beneficial.—*British Medical Journal*, December 3, 1921.

**THE EFFECT OF VITAMIN B ON THE APPETITE.**—Samson Wright after making a series of experiments on rats, remarks that there appears to be considerable evidence that the appetite is adversely affected by the absence of Vitamin B from the diet of animals. He does not believe, however, that the sequence of events is a direct one. Rather he contends that Vitamin B acts by facilitating the efficient carrying out of the functions of the intestinal canal. The main effects produced by the absence of the vitamin—i. e., diminished food consumption, loss of weight, and ultimate death—are due to intestinal stasis and the absorption of toxic bodies which results therefrom.—*The Lancet*, December 10, 1921.

**THE CAUSE OF TRANSITORY HYPERMETROPIA IN DIABETES.**—Hagen (*Norsk Mag. for Lægevidenskaben*, June, 1921) finds that transitory hypermetropia is a comparatively common associate of diabetes, and is far more often seen than transitory myopia in combination with diabetes. In the course of six months he has seen three cases of transitory hypermetropia in diabetes, and he supplements these cases with two from hospital practice. The most important conclusion to which he comes, and which is apparently new, is this; while other well known complications of diabetes, such as cataract retinitis, retrobulbar neuritis, and paralysis of accommodation, are due to the disease itself, transitory hypermetropia is a sequel to the treatment instituted rather than to the disease itself. In all the author's private cases this hypermetropia did not occur till a diabetic diet had been instituted and the amount of sugar in the urine had been greatly reduced. In all three cases the patients noticed disturbances of vision one week after the institution of dieting, and they lasted six to eight weeks, long after the urine had ceased to contain sugar. The author confesses to ignorance of the immediate causes of this form of transitory hypermetropia, and he notes that the assumption that it is due to changes of refraction caused by an accumulation of sugar in the aqueous and vitreous constituents of the eye has been proved to be incorrect. Ask and Lundsgaard have come to the conclusion that changes in the lens are responsible for this form of transitory hypermetropia, but the author professes complete nescience as to the exact nature of these changes.—*British Medical Journal*, August 13, 1921.

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## PEDIATRICS

Conducted by C. S. RAUE, M.D.

**COLIC IN BREAST FED INFANTS AS A RESULT OF SENSITIZATION TO FOODS IN THE MOTHER'S DIETARY.**—Dr. Ray Shannon stated that, until recently it has been generally held that it was immaterial to the infant what the mother might eat so long as she ate a good all round diet and did not partake of foods that did not agree with her. Of late, however, it has been shown that this is not true. Foods that the mother eats may appear in the breast milk and may give rise to allergic reactions in the

nursing infant. Such reactions may be in the form of skin, respiratory or gastrointestinal manifestations.

The writer sums up his paper with the following conclusions:

1. Breast milk may transmit foods that the mother eats.
2. These foods may produce disturbance in the infant through the breast milk.
3. Persistent colic in breast fed babies is frequently due to sensitization to foods which the mother eats, and which come to the infant through the breast milk. Removal of these foods from the diet of the mother will frequently result in permanent cure of the colic.
4. Food allergy is a rational basis for explanation of the well known statement that all breast milk is not the best food for every baby.
5. The fact that one infant will thrive on breast milk that another cannot tolerate is explained on the basis of allergy to foods contained in the breast milk.
6. Recognition and application of these principles will result in the prevention of considerable suffering in the baby and occasionally will remove the necessity for a too early weaning from the breast.—*Archives of Pediatrics*, December, 1921.

AN ERUPTIVE FEVER OF UNUSUAL CHARACTERISTIC IN CHILDHOOD.—Levy of Detroit describes an unusual eruptive fever observed in about 30 cases. The disease occurs in babies from 8 to 30 months. There has been no coincidental relationship between the occurrence of it and epidemics of other eruptive fevers, so that it cannot be explained as an atypical instance of some other current infection. In no instance could one case be traced to another as evidencing communicability. A most striking feature of the disease is the sudden occurrence of a high fever in a previously healthy baby. The temperature, when first noted, is from 103 to 104° F., and remains between 103 and 106° for from seventy-two to ninety-six hours. There are virtually no accompanying symptoms. Upper posterior cervical lymph glands are palpable; almost uniformly, reddening of the buccal membranes has been suggestive of an exanthem. About the fourth day there is a definite crisis, the temperature dropping to normal or sub-normal and the patient appears as entirely well as previous to his illness. During the succeeding few hours the eruption appears, first on the trunk and spreading rapidly over the body, with the face, however, only slightly affected and with relatively few lesions on the arms and legs. The lesions are most frequently irregular macules of from 1 to 3 mm. in diameter, and are pale, rose red, or pinkish. They are not elevated, always discrete and are non-itching. The eruption reaches its height in a few hours, fades rapidly and is gone within forty-eight hours. There is no desquamation. There are no blood changes worthy of note except a slight leucopenia, as a rule. The urinary and renal findings are negative. The author concludes by saying, "Unless the foregoing can be demonstrated to be an ordinary exanthem existing in atypical form, we are here dealing with an entity actually constituting a new disease. Until proof to this effect can be demonstrated, however, it would be well to consider it an anomalous form of rubella, which disease it most closely approaches."

Veeder and Hempelmann of St. Louis report more than twenty similar cases and in general their description of the disease coincides with that

of Levy. They believe it to be a definite clinical entity not recognized in any of the text books. They particularly stress the absence of prodromal symptoms; the absence of symptoms accompanying the fever, i. e., vomiting, cough, diarrhea or pain; congested ear drums, inflamed tonsils and lymphoid enlargement. In their experience the post cervical glands are not enlarged. The absence of toxemia with the high fever is noteworthy. The majority of their cases have had a decided leucopenia. They also call attention to the absence of contagiousness.—*Jour. Amer. Med. Ass'n.*, December 3rd, 1921.

#### DERMATOLOGY.

Conducted by RALPH BERNSTEIN, M.D., F.A.C.P.

**ELEPHANTIASIS OF THE HANDS.**—C. Gallo, of Naples, reports the case of a child, eight years of age, who had, three years previously suffered from multiple submaxillary glandular suppuration which lasted nine months. The present illness had begun five months ago with gradual swelling of both hands to such a degree that the carpus, metacarpus and tendons were difficult of delineation. The intradermal tuberculin reaction was intensely positive, and the Wassermann, both in the boy and the mother, strongly plus. Radiographic examination of the hands showed no bony alterations. The child was treated in clinic for three months with thyroid extract, adrenalin and salvarsan. The general condition improved, but the aspect of the hands remained about stationary. The diagnosis was probably a postinflammatory elephantiasis due to disturbance of the lymphatic circulation, with resulting hyperplasia of the connective tissue.—*Pediatrics*, Aug. 15, 1921.

**STREPTOCOCCIC DERMATOSES.**—According to Chipman, the streptococcus plays a preponderant or accessory role in the production of numerous dermatoses. The arch of pure streptococcic dermatosis is impetigo contagiosa. This is a pure streptococcic infection of the epidermis. Erysipelas may be considered as such an infection of the deeper tissues. The ordinary whitlow is generally considered to be streptococcic in origin.

Impetiginization designates the characteristic symptoms of impetigo superimposed upon some pre-existent dermatosis, which beneath the complication retains its own individuality. This disease spreads peripherally. The characteristic vesicle cannot be formed because the stratum corneum is lacking. The diagnosis impetiginous eczema was frequently made some years ago. This condition retained a semblance of eczema, but yielded to the treatment of impetigo.

Sabouraud endeavored to establish the identity of chronic streptococcic epidermitis. Darier considers this a chronic microbic, lichenoid eczema. Engman and Fordyce have described infectious eczematoid dermatitis as an infection which had become eczematized.

Chronic forms of impetigo are frequent. Sabouraud described the group of dermatoses which recur from time to time as the result of the activation of quiescent foci of streptococcic infection. The recurrent forms of intertrigo frequently originate in the retro-auricular fold. The process may extend directly from such a chronic focus, or be spread by the fingers. Ecthyma has come to mean an impetigo which has invaded the deeper



structure and has caused rupia-like lesions, which heal with scar formation. Circumscribed forms of pityriasis simplex of the face, called by the French "dartes volantes" should likewise be classed as impetigo. Perleche is another example of the preference of the streptococcus.

The character of the soil and certain internal influences may account for some of the objective differences in lesions due primarily to streptococci. Probably the determining factor of greatest importance is the variation of the organism itself. Unna has maintained that different strains of streptococci may some day be found to play a causal role in the production of the various forms of impetigo. Certainly it will not appear far-fetched to assume that, just as different strains of streptococci have been isolated for scarlatina, erysipelas and measles, they may also be isolated for impetigo, ecthyma, intertrigo, and other dermatoses.—*Arch. Dermat. and Syphilol.*, Oct. 1921.

**THE HEREDITY AND ETIOLOGY OF NEVI.**—According to Meirowsky and Bruck, maternal impressions are now known not to be etiologic in the heredity and etiology of nevi, as embryonic findings contradict this theory. In studies of the skin from an hereditary standpoint, it was shown that the etiology must be sought in the germ plasm, in the anlage mass of the new individual. A case of a family is quoted from the literature, in which a woman with a slight asymmetry of the right side of the face, married an alcoholic. A daughter also showed the asymmetry of the right side of the face, a deformed right auricle and an extensive nevus on the right side of the body. A son showed a giant nevus on the right side. Another child was born with spina bifida and a deformity of the right foot. All these findings indicate an inferiority of the right side of the body, shown also by large nevi in the first and second generations, due to abnormalities of the germ plasm involving the right side of the body.—*Munch. med. Wchnschr.*, Aug. 1921.

**PSORIASIS; SOME POINTS CONCERNING ITS ETIOLOGY AND TREATMENT.**—Reviewing the work of numerous observers, George Van Rhee concludes that up to the present time we have no convincing proof that the disease is bacterial in origin. The sudden appearance or disappearance of the eruption during change of season, change of diet, and following toxic and inflammatory conditions would lead us to believe that a toxemia, due to a disturbance of metabolism, may be one of the most important factors in the production of psoriasis. Every case should have a thorough examination by a competent internist for foci of infection. Sufficient open-air exercise, systematically taken, will have a material effect in aiding medical treatment. Sunlight is very beneficial in some cases. Change of climate during the winter months is often advantageous. Cases of long standing and generalized eruption should be hospitalized. Diet has no marked effect, except that in some cases the condition improves temporarily when the diet has a low protein content, while in others the eruption is exaggerated. Non-specific protein therapy, stock vaccines and vaccines made from the intestinal flora are reported as producing favorable results in some cases. Intravenous injections of horse serum have been used. Among the drugs, arsenic stands foremost. It should not be used in an acutely inflammatory condition, in which the disease is rapidly spreading. It may

be prescribed in the form of Fowler's solution, sodium arsenite, or arsenious acid. Sodium cacodylate hyperdermically is often of value. No form of salvarsan has proved beneficial. Alkalis, potassium iodid, the salicylates and phenol deserve honorable mention.—*Journ. Michigan State Med. Soc.*, September 1921.

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#### SURGERY

Conducted by J. D. ELLIOTT, M.D.

**NONSURGICAL DRAINAGE OF THE BILIARY TRACT: ITS USEFULNESS, DIAGNOSTICALLY AND THERAPEUTICALLY.**—Smithies, Karshner and Oleson describe their experience with the Meltzer-Lyon method of drainage of the gallbladder and answer many of the objections which have been raised against this method of diagnosis and treatment. Their findings are decidedly favorable and they believe it to be a valuable procedure for diagnosis and of increasing value in the treatment in the diseases of the biliary tract. They sum up its usefulness as follows: It is a mistake to attempt relief of obstructive lesions, known calculi, tumors and the like, when by surgical endeavor more logical and positive relief may be quickly brought about. If such caution is neglected, then the Meltzer-Lyon regimen will fall into disrepute both as a diagnostic and as a therapeutic adjuvant.

It has been proved to us definitely in our practice that metapyloric biliary tract drainage has a place in the treatment of affections of the biliary tract. In ailments which are of recent inception or where pathologic damage precludes hope of successful surgery, by preventing bile stasis, by attempting to eradicate infection and by striving to improve hepatic function, in these groups of disturbances the procedure is of service. Such patients fall under the following classification. 1. Acute cholecystitis, cholecystitis or hepatitis in association with acute infectious ailments (scarlet fever, pneumonia, typhoid fever, tonsillitis, etc.); or arising as limited biliary tract disease. 2. Hepatitis with duct malfunction of toxic origin—ptomain poisoning, lead or phosphorus poisoning, and acute yellow atrophy, especially the variety following injection, intravenous or muscular, of certain arsenical products used therapeutically. 3. Biliary stasis in association with acute or chronic heart embarrassment. 4. Gall tract stasis in the cirrhotics. 5. Gall tract stasis, dysfunction or infection in severe anemias (hemolytic "pernicious," Banti's syndrome, "chlorosis," etc.) 6. Dyspeptic storms occurring as "biliousness" in conjunction with migraine, epilepsy, etc. 7. Chronic or acute "rheumatoid" infections when all extra-abdominal foci of infection have been removed, and when biliary tract involvement remains and the "rheumatoid" ailment progresses. 8. Gall tract and liver stasis or infection present with diabetes, exophthalmic goiter or pancreatitis where operative interference is not possible or can be performed to but a limited extent. 9. Duodenopyloric or pyloric ulcer, frequently recurring coincident with "bilious" attacks or atypical ulcer manifestations, and when reliable surgery is not available or the subject is unsuited. 10. Instances of intestinal stasis in which dyspepsia of gall tract and liver type complicates; frequently recurrent attacks of so-called "mucous colitis." 11. As we have elsewhere reported, when, following operative procedures on the biliary tract, malfunction still remains and no further surgery is possible. 12. Gall tract stasis with low grade indolent

infection not complicated by gross mechanical defects, calculi or neoplasm.  
—*Jour. Am. Med. Asso.*, December 24, 1921.

**THE SURGICAL TREATMENT OF PERNICIOUS ANAEMIA.**—Hitzrot states that the forms of treatment of interest to the surgeon in the group of anaemias, designated as "pernicious anaemia," are blood transfusion, eradication of foci of infection and splenectomy. The quantity of blood to be transfused is still a question for discussion. If the introduced blood stimulates the blood-forming organs, then small, frequently repeated transfusions would seem to be the method of choice. On the other hand, if the new blood inhibits or counteracts the action of some blood destructive agent or if it carries the patient along until his fatigued blood-forming organs have time to recuperate, larger doses would appear to be indicated. No solution of this problem has yet been reached, but in the author's experience the often repeated small or moderate transfusions have been as successful as the larger ones and are less apt to cause unpleasant reactions.

Foci of infections may be of great importance, but such foci are frequently found in individuals of forty or over. The bacteria grown from them should have definite haemolytic properties before they may be considered etiologic agents in this class of anaemias.

Certain clinical factors are of much importance in relation to decision about splenectomy. Age: Individuals under forty-five, with an anaemia of the haemolytic type, with attacks of blood destruction (haematogenous crises), with periods of remission between crises are favorable subjects for operation. The presence of a palpable spleen is a very definite indication for its removal. In the author's series of seven cases, the spleen was definitely palpable in three, questionably so in two and non-palpable in two, although it was enlarged in all cases. Blood findings: When the vital staining cells are absent or only present in a little less than the normal ratio, splenectomy can be of little value. If the reticulated cells are present in less than the normal ratio transfusion is indicated. If this increases the number it is a help in deciding for splenectomy and the greater the increase the more benefit can be hoped for from the operation. Hitzrot has obtained more help from this proportion of the reticulated cells than he has from the blood platelets, although Minot considers the latter to be the best indicator of the condition of the bone marrow. The fragility of the red cells as tested by the hypotonic salt solution is of great value. If the red cells are less resistant than normal before splenectomy the patient will be improved by the operation, the greatest improvement of this series occurred in the case with the most fragile red cell.

Splenectomy is contraindicated in the elderly individuals, in the cases with spinal cord symptoms and in the aplastic cases.

If splenectomy is to be done, it should be performed early, as these cases do much better than those in which splenectomy is done as a last resort.—*Annals of Surgery*, January, 1922.

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#### UROLOGY.

Conducted by LEON T. ASHCRAFT, M.D.

**THE DIAGNOSIS AND TREATMENT OF CYSTITIS.**—J. F. Dobson very properly suggests dropping the term "cystitis" and substituting for it

"infectious diseases of the urinary tract." This is quite timely since cystitis is so rarely primary. A search for causes will be found apart from the bladder. He justly claims that because of incorrect diagnosis practitioners have been misled into treating so-called bladder inflammations by "hit or miss" methods. He insists on a correct diagnosis as to the origin in the following way: 1. Rectal examination of the male to exclude diseases of the prostate, seminal vesicles, fissure, fistula and hemorrhoids, and both rectal and vaginal examinations of the female to exclude uterine enlargements and displacements, adnexal disease, and cystocele. 2. Abdominal examination for bladder distention or tenderness and pathologic processes in the appendix or kidney. 3. As further aids in the diagnosis an X-ray examination of the whole genito-urinary tract should be made and followed by a cystoscopic examination and pyelography. In the majority of cases of very acute infection of the urinary tract treatment must be limited to the administration of abundant fluids by mouth, alkalies, sedatives, and urinary antiseptics. Occasionally the intensity of the infection will require drainage, in which case the author advises suprapubic drainage with bladder instillations of eusol through Carrel tubes. The value of urinary antiseptics is very doubtful. We do not as yet possess any drug which, by oral administration, will be excreted in the urinary tract and control infection there existing with any certainty. The most universally accepted drug for this purpose is urotropin. Bladder lavage is of value chiefly as a preliminary to the surgical treatment of enlarged prostate, stricture, tumor, calculus, etc. It is useless until the cause of the infection is ascertained. For lavage the author recommends silver nitrate. A 1:20,000 solution should be used at first and its strength then gradually increased. Dobson decries the value of vaccines.—*British Medical Journal*, 1921, ii, 305.

**TOTAL EXTIRPATION OF THE URINARY BLADDER IN CASES OF VESICAL TUMOR.**—S. P. Fedoroff, correctly claims that all tumors of the urinary bladder are potentially malignant. Because of this fact he advocates but one method of treatment—radical surgical treatment. For diffuse, infiltrating bladder growths, large carcinomata and papillomata of the neck of the bladder, resection is necessary. In far advanced cases, however, total extirpation of the bladder is the method of choice. Fedoroff claims a very low mortality rate with good functional results. A history of five cases is given in detail. It is but a fair criticism to say however, that the consensus of urologic opinion is against this method as the only one. Fulguration is undeniably the ideal method of treatment for small benign papillomata, while radium is generally conceded to be curative in the larger benign tumors of the urinary bladder when properly applied through the operating cystoscope.—*Manuscript*, Petrograd, 1921.

**THE REMOVAL OF URETERAL STONE BY CYSTOSCOPIC MANIPULATION.**—During the past six years 98 cases of ureteral stone have come under the observation of Crowell, of which number he has succeeded in removing 88 by cystoscopic manipulation. Of the 7 cases so treated the stones were accidentally pushed back into the kidney pelvis in 4; 1 obtained relief following ureteral dilatation and failed to return for further treatment; and 2 ureterolithotomies were performed. Nephrectomies were performed

on 2 of the remaining 3 cases in this series not adaptable to this method and 1 was removed through a pyelotomy opening while removing a large stone from the kidney pelvis on the same side. The method by which he has accomplished this work consists of ureteral anesthesia and ureteral dilatation. The success of the method is largely dependent upon the extent of bladder and ureteral anesthesia. The ureteral catheter is then inserted into the ureter until it meets with resistance. At this time procain solution is slowly injected through the catheter and allowed to remain for ten minutes. The catheter can then be passed above the stone without difficulty in most instances and especially is this true if oil is injected during this manipulation. He has not failed in a single instance to get by the stone in this way but frequently several attempts were necessary to succeed. He states that when the catheter has passed the stone he is master of the situation and it can be fastened in and retained almost indefinitely. In twenty-four and every twenty-four hours thereafter the catheter should be removed and a larger one introduced until a No. 11 has been reached. This is the largest size the Brown-Berger operating cystoscope will easily admit. A No. 9 tapered catheter can usually be introduced after the removal of a No. 5 or 6 at the end of the first twenty-four hours. A second, then a third one may be introduced until two No. 11 and one No. 6 have been inserted into the ureter. He has done this on several occasions. The third catheter cannot be larger than a No. 6. It is introduced through a No. 15 child's single catheterizing cystoscope. It is necessary to use this small instrument because the ordinary male urethra will not admit two No. 11 ureteral catheters and the Brown-Berger single catheterizing cystoscope at the same time; the female urethra however will admit this instrument and at least three No. 11 catheters. The ureter can, in this way, be dilated extensively without danger to the patient. The dilatation can be further extended by using the cable metallic dilator after removing the catheters. The author claims that this is a simple and plain method and may be done by any competent cystoscopist. This is noteworthy since the fatalities following operation for the relief of ureteral stone range from one-half of 1 to 20 per cent. From 40 to 60 per cent. of the cases applying for relief of this condition have been operated upon with no record of an effort having been made to remove them by cystoscopic means. Some claim that 90 to 95 per cent. of the stones will pass spontaneously. If this be true, it is evident that operations have been made upon far too many cases for the relief of this condition. This method of course is not applicable in certain abnormalities of the urethra.

*Conclusions.*—1. Practically all recently impacted ureteral calculi, in the normal ureter, can be removed by cystoscopic methods under local ureteral anesthesia with less fatalities and less injury to the kidney function than that obtained following surgical procedures. 2. The success of the method depends upon the greatest ureteral anesthesia possible and ureteral dilatation, the skill of the operator, and the persistence in his manipulations. 3. An effort should first be made to remove the stone by this method. No harm is done the patient by so doing and surgery can be resorted to at any time necessary. 4. Much time and suffering is saved the patient and a return of the stone less liable to occur following this plan of procedure than that following surgery.—*Journal of Urology*, September 1921.

## EAR, NOSE AND THROAT.

Conducted by JOSEPH V. F. CLAY, M.D.

**GANGOSA.**—Arrowsmith reports a case of gangosa occurring in an Italian laborer who had lived in this country a number of years and who had never visited the tropics. Gangosa is an ulcerative lesion of the palate, nose, pharynx and skin surfaces very destructive and of unknown cause. It is found endemically in Guam, the Ladrões, Caroline, Batanes, Fiji Islands, Murray Island, Panama, British Guiana, Ceylon, Nevis, Dominica and Equatorial Africa. It is chronic in nature, lasting from ten to thirty years, with periods of quiescence. It is rarely fatal except in children, but the disfigurement is great. Histopathologically edematous infiltration, infiltration with round cells, principally lymphocytes, at times giant cells and proliferating vessels and hemorrhages then necrosis. Diplococci, micrococci and bacilli have been found but no acid fast bacilli or treponemata.—*Laryngoscope*, November, 1921.

**SEPTICEMIA AND DEATH FOLLOWING STREPTOCOCCUS TONSILLITIS.**—Meyerson reports a case of a woman 40 years of age who four days following the advent of an acute tonsillitis became profoundly septic and died in seven hours. The culture from the tonsils showed a hemolytic streptococcus and a blood culture taken before death showed the same organism. Post mortem revealed petechial hemorrhages into the epicardium, the heart chambers filled with "chicken fat" clot, the aorta just above the valve cusps showed acute atheroma. The lungs were congested and edematous. The spleen was enlarged and soft. The kidneys congested and the liver enlarged, mottled and showed fatty metamorphosis and cloudy swelling.—*Laryngoscope*, November, 1921.

**THE RELATION OF THE INTERNIST TO DISEASES OF THE MIDDLE EAR AND MASTOID.**—Chamberlin states that it is the internist who first comes in contact with diseases of the ear and frequently its complications and upon him rests the responsibility of suggesting special attention before serious conditions arise. The average internist is keenly alive to the possibilities of a "belly ache" so that few cases of appendicitis are overlooked. The same internist who would not fail to diagnose appendicitis will calmly wait for the tympanic membrane to rupture and considers the discharge a favorable symptom. He feels that routine examinations of the tympanic membrane should be a routine measure. The more common signs of mastoiditis are well recognized by the family as well as the physician. Atypical cases are not appreciated such as those presenting continued pain and tenderness over the mastoid without post-auricular swelling. Tenderness of the mastoid persisting for from two to five days is frequently observed in uncomplicated otitis media. Its continuation is evidence of mastoiditis. The absence of fever proves nothing. Very important is the discharge. This author places six weeks duration, under proper treatment, as the limit of safety. This author believes that 99 per cent. of the cases of chronic discharging ears are the result of ignorance or neglect on the part of the individual, his family or the physician. Too frequently the advice of the physician to let the discharging ear alone,

has resulted in intracranial complications. A discharging ear is always a dangerous ear.—*Laryngoscope*, November, 1921.

#### PULMONARY COMPLICATIONS FOLLOWING NOSE AND THROAT OPERATIONS.

—Borden states that while the embolic theory is theoretically possible, it is, in the majority of cases, quite improbable and to prove the theory is next to impossible. He believes that the inhalation of material into the lung is a more likely explanation and describes in detail the mechanism of the respiratory reflexes from the nose and pharynx. If the anaesthetic is carried to a point of abolishing the pharyngeal and lung reflexes, the natural protection of the lung cavity is gone. Vomiting is also considered in this article as a cause of lung abscess, inspiration of the vomitus taking place often after the patient has left the operating table. This author decries the use of atropin to control the excessive secretion of mucous believing that it tends to render the secretion more tenacious and less easy to handle. He suggests lowering the head so that the mouth and pharynx are lower than the larynx. He also discourages the use of morphia on the ground that it alters the respirations toward the end of the operation thus interfering with nature's protective reflexes. Special attention is called to the necessity of expert anaesthesia in order to produce a smooth anaesthesia without abolishing the laryngeal reflexes.

Control of the bleeding at the time of operation and subsequently. Mopping of the fossa is decried as affording every opportunity for embolus and causing much post-operative soreness. It all sinus and septum work the post-nasal space should be packed in order to prevent blood from escaping into the pharynx. Care of the patient after returning to bed is emphasized. Here attention to the breathing and if vomiting occur proper position of the head to allow of ready escape of the vomitus from the mouth.—*Laryngoscope*, November, 1921.

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#### PATHOLOGY

Conducted by JOHN G. WURTZ, M.D.

EXPERIMENTAL STUDIES ON INFLAMMATION.—Under this heading Wolf (*Jour. Exper. Med.*, XXXIV, No. 4, October 1921) gives an account of her studies relative to the influence of chemicals upon the chemotaxis of leukocytes in vitro. After a review of similar work by others and an account of her experimental methods she concludes that the calcium ion is positively chemotactic but when combined with the citrate ion becomes neutral. Sodium and magnesium ions are neutral. All potassium salts are negatively chemotactic. She found that mercury so fixed the cells by her method that the influence of this metal could not be determined. Morphine and its salts she found to be positively chemotactic, as too all substances which produce acute inflammation; as, cantharidin and turpentine. The bloods of different species of animals she found to react differently to the same chemicals, and further found that eating has an influence upon the actions of the leukocytes under these circumstances.

# THE HAHNEMANNIAN MONTHLY.

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MARCH, 1922

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## TUBERCULOSIS IN CHILDREN

C. S. RAUE, M.D., PHILADELPHIA

(Read before the Homœopathic Medical Society of Pennsylvania, Sept. 13, 1921.)

TUBERCULOSIS in infancy and childhood is usually encountered in the primary stage of the infection. In infants there is a tendency to a rapid spread of the infection to contiguous structures owing to the infant's lack of resistance to tuberculosis and, therefore, the evidences of a secondary infection are soon demonstrable. In older children the infection is, however, usually held in check by the regional lymph nodes and a secondary invasion of the lungs or a general infection is thereby prevented. For this reason tuberculosis in infancy presents a high mortality rate because of the infant's lack of resistance to the infection, while in childhood the mortality is low and the disease tends to become localized and remain latent.

On the basis of these observations it is generally held, in reference to the etiology of pulmonary tuberculosis, or consumption, that the seed for the same is sown in early childhood and that the pathological changes which occur in the lungs in a case of consumption do not correspond to the pathology of a primary lung infection but represent the reaction of a partially immunized individual to subsequent infections.

There is probably no natural immunity against tuberculosis. Infants appear to be particularly susceptible to the tubercle bacillus and evidently exposure to infection is all that is required in order to contract the disease. Arrested infections, however, acquired during early childhood, appear to con-



fer more or less immunity against subsequent infections in later life. Such an infection at least tends to develop resistance against the spread of the disease throughout the body and thereby lessens the likelihood of acute miliary tuberculosis or tuberculous bronchopneumonia developing. This assumption is based upon the fact that tuberculosis is usually of the disseminated type in infancy while during later childhood it tends to become localized. In this localized, or glandular form it may rest dormant and eventually undergo spontaneous cure. If, however, a child with such a latent infection becomes re-infected, or its vitality depressed by an intercurrent disease, or through improper food and unhygienic surroundings, a new tubercular process, modified by the partial systemic immunity toward the tubercle bacillus, develops. Such a process does not present the manifestations of an acute miliary or caseous tuberculosis, but it is characterized by a chronic course and shows attempts, more or less successful, on the part of the host to overcome the infection.

Childhood furnishes the majority of cases of localized tuberculosis, namely, tuberculosis of the glands, bones and joints. The scrofulous child is one that is afflicted with a latent infection, usually glandular, which more or less protects it against a general infection, but which has made it hypersensitive to the toxin of the tubercle bacillus. These children develop severe reactions on the mucous membranes and skin and give a strong von Pirquet reaction. They are also liable to phlyctenular keratitis. The majority of children over two years of age who develop tubercular meningitis and acute general tuberculosis, show no evidence of previous infection. They do not give the von Pirquet reaction and at the autopsy there is rarely evidence of an old lesion. In children under two years of age, however, tubercular meningitis and acute miliary tuberculosis occur as the so-called second stage of tuberculosis and develop in the wake of a primary lung focus which the young organism is unable to hold in check. Infants appear to be unable to develop any degree of immunity against tuberculosis such as older children acquire from a small focus. The lymph nodes may hold up the infection for a while but, as a rule, it soon passes this barrier and extends into the pulmonary structure or gains entrance into the circulation setting up a generalized infection.

The percentage of latent tuberculosis among children of

apparently normal health is strikingly high. Before the discovery of the cutaneous tuberculin test we could only surmise, but not prove, that a child harbored the tubercle bacillus somewhere in its body. This was the only explanation for the sudden development of active tuberculosis in a child previously apparently healthy, after an attack of measles or whooping cough, or a rapid breakdown during adolescence incident to unhygienic surroundings, overwork at school, or in factories, insufficient food, etc.

In 1907 von Pirquet announced his cutaneous tuberculin test to the profession as a safe and practical method of demonstrating the presence of a tubercular infection in the individual reacting to this test. The fact that the reaction may be present even some time after the lesion has healed, owing to the presence of immune bodies in the tissues, makes the test of questionable value in adults, but does not lessen its usefulness in childhood.

Von Pirquet found that in a series of 1,134 children in Vienna, clinically non-tuberculous, the reaction was found in percentages which rapidly rose, almost with step-like regularity, from 15 per cent. at two years, to 90 per cent. at fourteen years. Mortality figures in tuberculosis strangely contrast with these findings. Death from tuberculosis in childhood is highest in early infancy. This is due to the infant's close proximity to the parent or nurse who may have tuberculosis and its close confinement to the house. Also to the fact that infection at this stage tends rapidly to become general.

The mortality falls decidedly after the third year and the lowest figures are reached between the fifth and tenth years. It does not materially rise again until the time of puberty at which epoch pulmonary phthisis begins to play an important role.

How does the child become tubercular? All signs point to infection by the way of the respiratory route, the source being an individual with open tuberculosis. Other forms of infection occur but they are rare. Of these, infection through the alimentary tract is of first importance. Primary intestinal tuberculosis is far less common than primary pulmonary infection, the chief reason, perhaps, being that it requires an enormously larger number of bacilli to set up an infection, when the bacilli enter by way of the alimentary tract, than when they are inhaled, as proven in animal experiments.

No doubt the same condition holds good in the case of human beings. The milk supply evidently plays an important role in the etiology of intestinal tuberculosis and the bovine type of bacillus has been identified in such cases.

Infection may take place through the mouth and tonsils and this explains the mode of occurrence of cervical and sub-maxillary tubercular adenitis. In cases showing involvement of the supra-clavicular glands there is an associated apical pleurisy.

The bronchial glands, however, are the site of the infection in the great majority of cases irrespective of whether the child is clinically tubercular or not. Most pathologists are of the opinion that the changes in the bronchial glands are secondary to a focus in the lung. This could not well be otherwise judging from the course pursued by an infection with the tubercle bacillus in other regions of the body.

Since the bronchial glands show the most advanced changes in the majority of autopsies, a belief in the preponderance of respiratory infection is justified. When the chain of glands on the right side is involved a primary focus can be found in the right lung and vice versa. Infection of both chains can only occur when there is a primary lesion in both lungs.

Bronchial gland tuberculosis is, therefore, the most important clinical variety of tuberculosis in childhood. If such an infection is latent it can only be suspected from the presence of a positive von Pirquet reaction. Enlarged bronchial glands may, however, frequently be demonstrated by percussion and auscultation, according to the method of D'Espine.

The sign to which D'Espine called attention is dullness between the shoulder blades, most marked from the second to the fourth dorsal vertebra, associated with exaggerated transmissions of the whispered voice over this area. If the child is made to speak in a low voice an accompanying whispering sound is heard. The respirations are also distinctly bronchial over this area. The bifurcation of the trachea is on a line with the third dorsal spine and here the main bronchial glands are situated.

Enlarged bronchial glands may also produce obvious symptoms, the recognition of which makes the diagnosis possible independent of physical diagnosis and the cutaneous reaction. The symptoms referred to are a high pitched metallic

cough, associated with expiratory dyspnoea. This syndrome is only typically seen in infancy, at which age the presence of tuberculides is also a frequent aid in the diagnosis of tuberculosis. Tuberculides are small hard papules, about the size of a pin head, bearing a central depression. They are scant and may be found upon the trunk and extremities. Their clinical importance was first pointed out by Hamburger, one of Pirquet's associates.

Owing to the great prevalence of latent tuberculosis in childhood we should always bear it in mind in the presence of obscure fevers and in all cases of malnutrition and anemia. The mistake, however, is often made of ascribing to tuberculosis recurring or continued fevers due to a focal infection, empyema, rheumatism and intestinal toxemia.

The *symptoms* of tuberculosis in childhood depend upon the stage of the infection and the severity of the same. In the primary stage there is usually a continued irregular fever, loss of weight and anemia. These symptoms are more marked in infants than in older children. At this age the infection tends to spread rapidly to adjacent tissues and *tuberculous bronchopneumonia* or *caseous pneumonia* frequently develops within a short time after the bronchial glands have been infected. In older children, however, the primary infection is usually held in check by the lymph nodes. There is, therefore, less danger of a general infection and the child may show no characteristic clinical manifestations which would suggest tuberculosis. A child with infected lymphnodes, however, is likely to present a slight evening rise of temperature and show some evidence of malnutrition and anemia. A positive von Pirquet reaction and the D'Espine sign can usually be demonstrated. The tubercular child is characteristically of slight build and is mentally alert; the skin is of fine texture and transparent, and there is a tendency to excessive growth of hair between the shoulder blades and over the shoulders. There is usually a positive tubercular family history in such cases and an evident hereditary predisposition to pulmonary tuberculosis. Another physical feature of these cases which, no doubt, predisposes them to phthisis is the long, narrow, flat chest and the abdominal ptosis.

*Acute miliary tuberculosis* develops most frequently in infants as a result of general infection from a primary focus in the lung and bronchial glands. It is characterized by a high,

continued fever of irregular type with rapid emaciation and the dominance of either respiratory or nervous symptoms, according to whether the lungs or meninges are chiefly involved.

*Scrofula* is a chronic form of tuberculosis in which there is a tendency for the process to remain localized in the lymphatic glands or bones. The scrofulous child is coarse featured, not as bright mentally as the tubercular type, and it is predisposed to chronic skin and catarrhal affections. The prognosis as to life is much better in this type of tuberculosis which usually affects the external lymphatic glands, particularly the cervical group, than in the type with a primary pulmonary infection. It is true, the bronchial glands arrest the infection in many instances, but there is always the danger of this defensive barrier breaking down or of subsequent infections occurring with the consequent development of the chronic form of pulmonary tuberculosis.

*Pulmonary tuberculosis* in childhood is more acute and of a more disseminated type than in adults. One of the characteristic features of miliary tuberculosis and tubercular bronchopneumonia is a degree of cyanosis and dyspnoea strikingly out of proportion to the physical signs present, and greater involvement of the apices than is found in ordinary bronchopneumonia, which, in fact, is confined almost entirely to the bases of the lungs. Rales may be first elicited in the nipple region as pointed out by Holt. The X-ray will show disseminated areas of infiltration throughout the lungs, together with enlargement of the bronchial glands. Finally, the sputum, which can usually be obtained by swabbing the throat with a bit of gauze after the child has been made to cough, will frequently show tubercular bacilli.

Intestinal infection leads to tubercular ulceration of the intestines with secondary mesenteric gland tuberculosis. The latter condition may lead to the development of a tubercular peritonitis.

In the *treatment* of tuberculosis in childhood the first essential is prevention. Knowing the important role played by exposure to a tubercular adult at this tender age, a child should be kept away from a tubercular parent if at all possible. The general regime of fresh air and overnutrition should be carried out. One of the greatest blessings to the child with a latent infection is the open air school.

Cod liver oil is, in my experience, a most valuable ad-

junct in the treatment of the scrofulous and localized tubercular manifestations. Children take it much better than adults and it rarely upsets them. In cases of phthisis, milk and eggs, continuous outdoor life and rest, as carried out in adults, is indicated.

Among internal remedies *tuberculin* 6x dilution is of great value in the localized manifestations. In the pulmonary form I have seen good results from *iodine*, in the lower dilutions. Such remedies as *ars. iod.*, *phosphorus*, *sulphur* and *silicea* should also be carefully studied and differentiated. The scrofulous diathesis is well covered by *calcareo carb.*

### DISCUSSION

DR. G. MORRIS GOLDEN, Philadelphia: The subject of tuberculosis in children is always a most interesting one for study. Dr. Raue's paper has emphasized the differences that exist in the tubercular manifestations between childhood and the adult. As can be seen, the manifestations in the two classes are decidedly opposite and no doubt is a potent reason why tuberculosis is so frequently overlooked in the child.

The tendency with which the bones, joints and lymphatic structures of the child are involved, is an important clinical factor. In such cases the examination of the lungs does not reveal sufficient evidence of an active tubercular lesion and thereby consider the condition of the child as non-tubercular. It is a well known fact that the physical signs of the chest in the child show many variations, from both physiological and pathological standpoint which modify the signs of pulmonary disease, in contrast to the same conditions as appearing in the adult. If one is going to wait until that time when the physical signs approach the adult type in lung disease, many tubercular conditions in children may be overlooked. One physical sign of which Dr. Raue mentioned and upon which one can place considerable reliance is that of D'Espine's. While its value is especially useful and was primarily used in the child as denoting evidences of peri-bronchial enlargement of the glands and hilus thickening, yet I have found it valuable, and use it routinely in the adult, for the detection of mediastinal and peri-bronchial conditions.

The X-ray is a valuable adjuvant in the detection of tubercular processes of the bones, joints and lymphatic structures. When applied to the chest for diagnostic purposes, I feel that it should not supplant the older methods of physical diagnosis. By this I mean, one should not read the X-ray of the chest,

and then draw his conclusions from it without a physical examination. In other words, make his physical signs fit the X-ray reading. The better plan is to examine the case first, elicit your physical signs and their significance and then compare with X-ray findings, and then determine whether they coincide in a general way as regards gross lesions. I am aware of the fact that minute pathological lesions may be determined by an X-ray, that are not sufficiently marked to be detected by physical findings. Yet, on the other hand, I have seen instances where gross lesions have been misinterpreted by the X-ray reading, probably due to lack of proper history and facts relating to the case. Hence, let us make a physical examination and determine the character of our lesion, by the usual physical methods and develop this art, which can be acquired by any physician to a helpful degree, to his own advantage, and with benefitting results to his patient.

DR. D. S. KISTLER, Wilkes-Barre, Pa.: I was unable to hear all the paper, but am deeply interested in this subject, and in what the doctor said. In spite of all our endeavor, and all our painstaking work, we sometimes make mistakes in our diagnosing this condition; so it seems to me that an early diagnosis is important.

As has been mentioned, there seems to be an undefined underlying predisposition toward this particular disease which has been spoken of as perhaps of embryonic origin, and I believe this to be true.

I wish to speak of a condition often found in the early years previous to the development of symptoms in this child of tender years, viz., a crooked spine. If we suspect that we have a patient whose trend is toward tuberculosis, examine the spine early. I have found that a number of these children have a tendency to irregularity of the dorsal vertebrae, this disturbs lung nutrition, and favors congested areas.

I have found by experience that it is not hard to adjust these irregularities in the early years of the child's life. This adjustment will help to prevent congested areas, and in this way help to overcome this predisposition.

If we have a child subject to colds, coughs, etc., see to this, also his adenoids, and tonsils, as has been emphasized by Dr. Raue.

If we have a child who has had a primary infection, it is due the child that he should be careful that it gets no reinfection. Pasteurized or certified milk should be given. I recall three children who had a primary involvement early in life, of the miliary type; one is now 23, one 19, and one 11 years. All are predisposed as yet, but, I believe that medical

treatment, diet, rest, fresh air, sunshine and deep breathing have had their part in bringing them through life thus far.

Just another phase of treatment that I believe to be of value in those who have passed through a primary infection, and are going on to adolescence, viz., develop their chest, and increase their lung expansion, and thus get a larger increase of air and oxygen in their lungs; I find that shoulder suspenders, of a pattern that cut or annoy the patient when he attempts to stoop forward, tend to do this, and if worn over a period of months, or years, have a tremendous value in overcoming this tendency.

So far as separating the child from the rest of the family is concerned, you must use your own judgment; but I think such a child should have its own sleeping room, or porch bed, in good air. Lime salts are of value.

The three cases I have just cited I have reason to think, were threatened with secondary involvement from focal points of infection, through diseased tonsils.

DR. JOHN G. WURTZ, Pittsburgh: In regard to tuberculosis in childhood, I think that it would be well for us to consider something that Dr. Raue omitted from his paper; and that is this, the pathology. He mentioned that the organisms enter the body either by way of the lung or by way of the intestine; the respiratory and alimentary admission into the body. The respiratory entrance, by means of inhalation, is probably the commonest form of the spread of the disease from adults. When the tuberculous process reaches the blood stream, it is scattered to various parts of the body. It is practically the same as septicemia, and so much damage is done that death results in a short time. This is miliary tuberculosis. On the other hand, if the tuberculous material is taken up by the lymphatics, we have a stimulation of what is generally recognized as a defensive process against tuberculosis. When the tubercle bacilli get in, by something inherent in their nature, they cause a proliferation of the endothelial cells of the lymphatic spaces. These endothelial cells grow so rapidly that the nuclei divide but the protoplasm remains intact, causing the formation of so-called giant cells. There is a round cell, or lymphatic infiltration with the lymphocytes blocking up the capillaries. No nutrition results, caseation occurs, and we have a typical tubercle.

No matter what kind of tuberculosis, that is the pathology. It is the same if there is one tubercle alone, or very many of them. There is something in the nature of lymphocytes that stimulates the fibroblasts to form connective tissue. If enough of these gather around the tubercle, there is a con-



nective tissue walling off the pathological process; and there happens either a slowing up of the disease or, if completely walled off, calcification or cicatrization.

While the lymphocytes are the defensive forces against tuberculosis, and are greatly increased in infancy, nevertheless, in infancy they often have no effect against tuberculosis. If the percentage of lymphocytes is relatively high in infancy, and if they are the defensive forces against tuberculosis, why should the infant get tuberculosis and succumb so rapidly? My idea is that in children up to two years, all the connective tissue is more or less embryonic; and the fibroblasts do not respond to form connective tissue. It is the connective tissue formed by stimulation of the fibroblasts by the lymphocytes that results in the walling off of tubercles. There may be something in the fibroblasts in infancy that makes them not respond to the action of the leukocytes. After the age of five or six years, the leukocyte picture in children changes. The polynuclear leukocytes increase, and the mononuclears relatively decrease.

DR. WALTER C. BARKER, Philadelphia: Dr. Raue's excellent description of tuberculosis in infancy and childhood, is a valuable addition to our literature. It has been stated that in infancy the resistance to tuberculosis is feeble; therefore, when the infection is present, it extends rapidly. If the bronchial nodes become involved, they enlarge very rapidly and cause pressure symptoms similar to hyperplasia of the thymus gland. Dr. Baetjer, Roentgenologist at Johns Hopkins, says that a large percentage of cases reported as thymus death, is due to tuberculosis of the mediastinal and bronchial lymph nodes.

To distinguish between these two conditions by the Roentgen ray examination, the outline of the mass in the mediastinum must be observed. In the case of hyperplasia of the thymus, the outline is smooth and clear-cut, but if tuberculosis of the lymph nodes be present, the outline of the shadow appears irregular and fussy. A differential point which I have observed when the left lobe of the thymus is enlarged, is that it will rotate upward and toward the left, pushing into the lung shadow when the stomach is filled with fluid.

When tuberculosis extends to the lungs in infants, it takes the form of the bronchial pneumonic type and here the shadows of caseation are scattered throughout the lung.

In childhood the resistance of the disease increases and the infection is limited to the lymph nodes located along the bronchial branches. These heal, giving small round dense shadows which remain throughout life.

In the adult, the Roentgen ray findings are quite different and may be described in three different types. If there has been no partial immunity acquired by a lymph node involvement, during childhood and a tubercular infection occurs in the adult, it will take on either the lobar type, which gives a shadow similar to lobar pneumonia, or the miliary type which casts shadows in the form of small mottling areas throughout the lungs. However, if the infection occurs in the adult who has acquired a partial immunity in childhood, the disease starts in the lymphatics as described by Dr. Wurtz, of Pittsburgh. The lymphoid tissue is abundant at the junction of the smaller vessels and branches of the bronchus. When the disease starts here, it causes an infiltration into the contiguous air cells, filling a lobule. In the Roentgenogram, it appears as a cone shape shadow, spreading out with the base toward the periphery. This is the earliest Roentgen ray shadow to appear in pulmonary tuberculosis.

In studying the Roentgen ray shadows of the lungs, the age of the patient and the various types of tuberculosis must be considered before arriving at a diagnosis.

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**THLASPI BURSA PASTORIS—CAPSELLA BURSA PASTORIS.  
SHEPHERD'S PURSE**

WILLIAM RAYMER, M.D., BEAVER FALLS, PA.

THIS plant is a native of Europe, but is found widely spread in fields, pastures and roadsides. It flowers from April to September. The fresh plant, gathered when in flower, is chopped and pounded to a pulp and weighed. Then to every three parts, two parts by weight of alcohol are taken. Then the chopped plant is moistened with as much alcohol as is necessary to bring the mass to a thick pulp, and is well stirred. Adding the rest of the alcohol, the whole is mixed together and strained through a piece of new linen. The tincture thus obtained is allowed to stand eight days in a dark, cool place and then filtered. This gives a tincture of the second class, or half-power tincture.

Two min. of tincture and 98 min. of dilute alcohol gives the 1 centesimal potency; 2 to 8 the 1x potency. Under the Homœopathic Pharmacy of the U. S., moist magma containing solids 100 Gm.

Plant Moisture 233 Cc=	333
Distilled Water	200 Cc
Strong Alcohol,	600 Cc

To make 1000 Cc's of tincture. This gives what is called a tincture 1/10, dilutions; 2x to contain 1 part of tincture to 3 parts of distilled water, 6 parts of alcohol.

Although an unproved remedy, the sphere of specific action is pretty accurately known and in former days it was frequently used. In our day, although almost unknown to "scientific" medicine, it enjoys a considerable reputation in popular medicine, chiefly for hemorrhages, and profuse menstruation, and metrorrhagia. In chronic diarrhoea, when this is purely a primary affection of the bowels, it will bring surprising benefit, but is useless in consensual diarrhoea.

In cases where the kidneys do not act well, the abdomen distended with water, the lower extremities swollen and oedematous, the urine of a bright red color which, on standing, forms a sediment unmistakably blood. Try tincture 5 drops every four hours and watch the urine, sand and then sand, and the relief is surprising, indeed. In the dysuria of old persons, when the passing of urine is painful and there is at the same time spasmodic retention, give this remedy, and your patient will get relief. In the presence of uric acid in the urine, with rheumatic muscular pains in various parts, with constant profuse perspiration day and night, thlaspi will often give prompt relief.

The power of this remedy to effect the secretion of uric acid is undoubted. In conclusion I desire to call your attention to the hemorrhages, especially those that are uterine in origin; hemorrhages accompanying uterine fibroids, metrorrhagias with uterine colic; she scarcely recovers from one period before another begins.

This remedy deserves a thorough proving for I firmly believe that there are many undiscovered virtues in this plant.

As to the dose, that is a matter for you. I use the remedy in the  $\emptyset$  and up to the 6th x.

#### DISCUSSION

DR. ANNA JOHNSTON, Pittsburgh: I have enjoyed listening to Dr. Raymer's paper very much. My attention to this remedy was first drawn when a student in the office of my

preceptor, Dr. Millie Chapman, who had used it with great success, and presented a paper on it at the American Institute.

I have frequently prescribed the same, especially in metro-rhagia of young women, accompanied with considerable pain. The periods would be long drawn out, perhaps two or three weeks, then a week or more of interval, when the flow would begin again.

I generally use the tincture, taking care that the tincture is fresh, as I am afraid that some of our failures may be due to the remedy having been too old and having become inert.

DR. WILLIAM RAYMER, Beaver Falls, closing: Regarding Dr. Johnston's query, I want to say a word. I find that many homœopathic physicians do not realize the fact that a mother tincture must be taken care of. You cannot expect it to last and prove efficient, if it is not taken care of; inasmuch as light, extreme heat and extreme cold have a bad effect. Many physicians do not realize this. They keep it in the light and heat, and find heavy deposits; and its efficiency is destroyed to a considerable extent. After a time, it should be renewed, even if it has had the best of care.

DR. J. V. ALLEN, Philadelphia: I have used this remedy in cases in which the menstrual flow occurs too often and almost continuously from one month to another. They respond to it very quickly, and I think it is clearly indicated in that character of trouble.

DR. WILLIAM RAYMER, Beaver Falls: Mr. Chairman, there is nothing more to add. I always think that a paper presented to a bureau like this should be brief. I believe that brevity is the soul of wit. I think that when papers are too long and too much in them, they tire the audience and do not bring out the points we wish to make. We should get the material in such shape that one can follow up the idea and think out for himself what is left unsaid, in the form of suggestion. Therefore, I have nothing more to add.

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OBSERVATIONS ON THE NORMALLY DEVELOPING SHOULDER.—Cohn presents his article in three parts; the first reviewing the literature, the second making observations upon his findings, and the third, interpreting the Roentgenograms of patients of various ages. The author finds one center of ossification in the epithysis at birth, a second center of ossification developing during the third year of life corresponding to the greater tuberosity, and one appearing for the coracoid process. At 14 years, a center of ossification appears in the epithysis of the acromion.

Complete ossification of the acromion epithysis, occurs in the eighteenth year, and the complete ossification of the head of the humerus, occurs at the beginning of the twentieth year.—*Am. J. of Roentg.*, Dec., 1921.

**LETHARGIC ENCEPHALITIS**

GEORGE W. MACKENZIE, M.D., PHILADELPHIA, PA.

(Read before the Homœopathic Medical Society of the State of Pennsylvania,  
September 12, 1921.)

LETHARGIC ENCEPHALITIS is fundamentally an affection of the central nervous system, the diagnosis and treatment of which belongs primarily to the nerve specialist; nevertheless, the protean character of the disease should be a sufficient reason to prompt the neurologist to ask assistance of specialists in other branches when it comes to the diagnosis of the more obscure cases. The truth of this statement is furnished by the literature of reported cases. In not a few of them the data upon which the diagnosis had been made was either insufficient or open to question. Cases of brain abscess have been allowed to go unoperated because lethargic encephalitis had been suspected, and vice versa. Cerebral syphilis has been mistaken for lethargic encephalitis and lethargic encephalitis for syphilis; other forms of meningo-encephalitis for lethargic encephalitis and the opposite. Since myasthenia gravis and lethargic encephalitis have many symptoms in common they have been mistaken for one another. The same may be true of acute polioencephalitis and lethargic encephalitis. Lethargic encephalitis has even been mistaken for wood alcohol poisoning. The similarity in the symptoms and signs of lethargic encephalitis to the symptoms and signs of these other conditions make a differential diagnosis rather difficult, especially in those cases where the history is obscure or faulty.

For instance, given a case with the history of middle ear suppuration, rushed to the hospital in a drowsy or comatose condition a day or so before exodus, the limited time allowable for the study of the case together with the unfavorable factor of coma may prevent one from making an exhaustive examination, \* \* \* thereby adding difficulties to the problem. To be sure, one can examine the spinal fluid, but even here we may find a similar character of fluid in the two conditions, except in those cases of brain abscess which have extended to and involved the meninges, when the fluid becomes cloudy because of the presence of leucocytes in contrast with the clear fluid and few lymphocytes of sleeping sickness.

Because an individual happens to have a chronic running

ear it does not make him any more exempt from lethargic encephalitis than another individual without a running ear. Dr. McCoy, of New York, at the last meeting of the American Medical Association at Boston, reported a case of brain abscess secondary to a middle ear suppuration which eventually developed sleeping sickness. The writer in discussing the paper pointed out the fact that many of the symptoms presented by the patient could have been due to a brain abscess, yet he could not state positively that the diagnosis made by Dr. McCoy and his consulting neurologist was incorrect without the advantage of a personal study of the case.

D. J. McCarthy, in the *Pennsylvania Medical Journal*, April, 1921, mentions a case in which a chronic middle ear disease was suspected as the cause of the patient's condition, and was only excluded after the mastoid cells were opened with negative results. I recall another case seen at the Crozier Hospital where the diagnosis lay between brain abscess and lethargic encephalitis. The patient presented a history of chronic middle ear suppuration, which was evidently one of the factors that prompted the neurologist who saw the case before me to suspect a brain abscess. Upon examining the case closely, including a spinal puncture which revealed a clear fluid under normal pressure, enough evidence was not obtainable to warrant an operation upon the brain. I suspected rather the presence of lethargic encephalitis. The patient died a few days later during my absence from Pennsylvania attending the Institute meeting. Unfortunately, an autopsy was not obtained. One or the other or both of us had made a mistake. The fact remains, however, that the symptoms and signs of brain abscess and sleeping sickness may be so nearly alike in some cases as to lead to an error in diagnosis. By way of differentiation of these two conditions it may be observed that the drowsiness of sleeping sickness resembles more that of natural sleep from which the patient can be aroused to answer questions in a normally rational manner, whereas in the coma associated with brain abscess the patient, when aroused, answers less rationally; the wakeful condition frequently resembles rather that of delirium. In brain abscess the temperature, pulse and respirations tend to be low, while in sleeping sickness the temperature, pulse and respiration tend to be high. In both conditions a dry mouth, heavily coated tongue with offensive breath, may be present, but these symptoms tend to be more pronounced in brain abscess.

That cerebral syphilis should be mistaken for lethargic encephalitis, or vice versa, especially in those cases presenting a plus fluid Wassermann, warrants no contempt on the part of the critic. When we come to consider the protean character of the two diseases and the marked similarity in the neuropathology (non-suppurative inflammation of the meninges and brain with perivascular infiltration of round and plasma cells) there is ample reason why the outward manifestations should also be similar. In lethargic encephalitis the intensity of the inflammation is greater than in syphilis, which accounts for the frequency of hemorrhages in the former. Likewise the toxemia is more intensive in lethargic encephalitis than in syphilitic encephalitis, thus accounting for the higher temperature. The difference in the meningo-encephalitis of sleeping sickness and of syphilis is more a quantitative than a qualitative one. Most authors who have studied these conditions to any extent are cognizant of the similarity in the clinical manifestation, even to the extent of an Argyll-Robertson pupil found in some cases of sleeping sickness. McCarthy cites a case where the diagnosis rested between cerebral syphilis and lethargic encephalitis for four days prior to death, and was only decided by the autopsy findings.

In a case still under observation where the serum Wassermann was negative but the fluid Wassermann positive + +, syphilis pure and simple, was excluded only after a most searching examination which in the end established the diagnosis of sleeping sickness. It was the positive Wassermann finding in this case linked with some other evidence which was presented in a private report on the same case to Dr. Gay, that prompts the suggestion that in all cases of sleeping sickness the spinal fluid should be examined after this particular manner in the hope of proving or disproving the fact that epidemic lethargic encephalitis is due to a microorganism belonging to the treponema family as are the diseases syphilis, relapsing fever and Egyptian sleeping sickness, among which there are so many features in common. If lethargic encephalitis is once proved to belong to this family of diseases, then the treatment may be expected to be more or less alike (antiluetic) in all, and with equally satisfactory results. The writer may have more to say on this phase of the subject at some future time.

Myasthenia gravis (pseudo bulbar palsy) and lethargic

encephalitis, besides selecting the same type of individuals (young adults) present many symptoms in common.

\*Myasthenia gravis (pseudo bulbar palsy) and epidemic lethargic encephalitis present in common the following symptoms and signs:

1. General myasthenia involving the muscles of the entire body, including the extremities. Every muscular effort fatigues rapidly.

2. Paresis is present from which there is a tendency to recover. Complete paralysis or atrophy never occurs as it does in polioencephalitis or in true progressive bulbar paralysis.

3. Weakness of the muscles of mastication.

4. Weakness of the muscles of deglutition.

5. Weakness of adductors of the larynx, with associated hoarseness.

6. Paresis of muscles supplied by the third nerve nucleus;

- (a) ptosis, partial external ophthalmoplegia.

- (b) Mydriasis and cyclopegia. Internal ophthalmoplegia.

7. Sixth nerve paresis (paralytic convergent strabismus).

8. Tendency to cardiac failure with rapid pulse from involvement of the tenth motor nucleus or accessory part of the eleventh, or both combined.

9. Weakness of the neck from involvement of the spinal part of the eleventh nerve.

10. Mask-like face from paresis of the seventh nerve.

11. Sensory cranial nerves rarely involved, and then but slightly as compared with the motor nerves.

12. Tendency to recurrence.

Among the differential features of the two conditions may be mentioned that myasthenia gravis is an afebrile disease, while lethargic encephalitis, on the contrary, runs a febrile course. Myasthenia gravis commonly presents the so-called myasthenic electrical reaction, which is absent in lethargic encephalitis; at least it has not been mentioned as being positive by anyone to my knowledge. Myasthenia gravis presents negative pathologic findings so far as the brain is con-

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\*The most complete account of myasthenia gravis is given by H. Oppenheim in his textbook on Nervous Diseases, fifth German edition, pp. 1172 to 1182. It is from this that the writer has gleaned the symptomatology of myasthenia gravis that matches up so closely with the symptomatology of sleeping sickness.



cerned, while lethargic encephalitis presents distinct and characteristic findings of a non-suppurative inflammation of a character somewhat more intensive than that found in cerebral syphilis, and certainly less intensive than that found in polio-encephalitis. The most consistent pathologic findings of myasthenia gravis are round cell infiltration of the muscles and viscera, especially the liver, findings which have never been reported as being present in lethargic encephalitis.

Acute polioencephalomyelitis resembles lethargic encephalitis by reason of the fact that both are non-suppurative inflammatory processes which tend to select the same cerebral structures, namely the spinal and bulbar motor areas and the basal ganglia; besides, both diseases are infective in character and occur more or less epidemically and run a febrile course. Lethargic encephalitis runs a longer and more indefinite febrile course than do the polio affections; besides there is a tendency to recurrence in lethargic encephalitis that does not exist in the polio diseases.

The most striking feature that distinguishes the two processes and which makes the differentiation comparatively easy is that in the polio diseases there occurs paralyses with subsequent atrophies affecting muscle groups, performing a definite function, whereas in lethargic encephalitis weakness of the muscles is more general with the exception of those supplied by the bulbar motor nuclei.

Lethargic encephalitis selects preferably young adults, while the polio diseases, as a rule, select much younger individuals.

Lethargic encephalitis and wood alcohol poisoning may be mistaken for one another, especially in those cases presenting a history of wood alcohol exposure, as happened in the case referred to earlier. In that case an oculist who had seen it before me made the diagnosis of wood alcohol poisoning.

This brings up the question of differentiation between wood alcohol poisoning and lethargic encephalitis. On looking up the subject of wood alcohol poisoning one is disappointed with the meagreness of the information obtainable. From what could be learned from the textbooks in toxicology, materia medica and ophthalmology, combined with personal interviews with Dr. Frank Woods, of Holyoke, Mass., Health Officer for the State, whose experience has been considerable in this class of cases, and with Dr. Wadsworth, coroner's phy-

sician of Philadelphia, and the observations of a few cases of my own, it appears that wood alcohol selects more especially the sensory nerves and exempts the motors, whereas the reverse holds true in the case of sleeping sickness. Again, acute poisoning from wood alcohol presents severe gastrointestinal symptoms, including pain, nausea, with vomiting and purging, which are not at all characteristic of encephalitis. If the patient survives poisoning from wood alcohol the failure of vision is the most definite and pronounced symptom, which is far from true in the case of sleeping sickness. In sleeping sickness there is a fever, rather indefinite in degree and duration, whereas in wood alcohol poisoning fever is practically absent. Wood alcohol poisoning is so different in most respects from lethargic encephalitis that it hardly deserves consideration in the differential diagnosis if it were not for the fact that the two conditions have been confused in at least two cases known to the writer. Ptomaine poisoning resembles sleeping sickness much more closely than wood alcohol poisoning does because of the fact that ophthalmoplegia is quite a common finding in the more severe cases of ptomaine poisoning.

The etiology, pathology and symptomatology of lethargic encephalitis, considering our present state of ignorance, has been fairly well covered in the differentiations referred to in the course of the paper, so that a separate attempt to cover them is hardly required at this time. The effort of the writer has been spent in attempting to show that before diagnosing any case to be one of epidemic lethargic encephalitis we should be careful to consider the possibility of other conditions that tend to resemble it more or less. Furthermore, on account of the protean character of the disease, permitting of wide variances in its manifestation, the specialist in neurology has need of assistance from others, not the least important among whom is the eye, ear, nose and throat specialist.

#### DISCUSSION

DR. WILLIAM C. SHEMELEY, Philadelphia: The subject of lethargic encephalitis is one that has come quite prominently to our attention, especially since the close of the last war. Dr. Mackenzie has covered the subject most thoroughly, but there are several points that he mentioned that will bear repetition. For instance, the differential diagnosis. In lethargic encephalitis, when the patients are aroused, they answer

questions intelligently; whereas, in cases of brain abscess, while there may be at times delay in answering, there may also be periods of excitability. He also brought out the fact that the spinal fluid in lethargic encephalitis is clear, and does not contain leukocytes; whereas, in conditions involving the meningeal structures, the spinal fluid is cloudy and contains leukocytes. Lethargic encephalitis, pathologically, has been found to invade nuclear centers. There were small areas of inflammation found about the nuclear centers. It is well to notice the analogy between plus Wassermanns and sleeping sickness. Treatment that is beneficial in the case of a plus Wassermann also proves beneficial in the case of lethargic encephalitis. It is to be regretted that when one attempts to look up the literature on myasthenia gravis, in attempting to differentiate these two conditions, there is practically nothing of note on the question. It is possible that this is due to the fact that either the cases have not been diagnosed properly or they have not been reported. I would strongly urge the members of this society that if they meet with such cases, they study them carefully and report their cases.

DR. HENRY I. KLOPP, Allentown: I should like to discuss particularly one factor that was not touched upon by Dr. Mackenzie, namely, the etiology; also treatment. I have seen cases in consultation, which, from my study of them, and the literature on the subject, it appears to me that the majority of cases of lethargic encephalitis seen since the 1918 and 1919 epidemic of influenza can be designated as influenzal encephalitis, particularly in view of the number of cases which have developed since that time. It is important to get definite histories so as, if possible, to elicit the etiology. In all the cases I have seen, with possibly the exception of one, there was a definite history of influenza. Symptomatically, particularly objectively, I have been impressed with the face of the patient, and the speech. Invariably, there is something characteristic about the facial expression; there is dulling, very often a ptosis of one or both eyelids. If lethargy is present, the delayed response to questions and slow, slurring speech are noticeable. The eyeballs are stationary or move slowly; it is difficult to get the patient to comply with a direct request to move them, and upon doing so invariably nystagmus is present. It is not unusual to have paralysis of one side of the face and of one arm or half of the body. In some, I have seen choreic-like manifestations, the movements invariably being athetoid in type.

The first case I saw was in the early part of 1920, in con-

sultation; a young woman about 23 years of age. After taking a careful history and reviewing the onset as well as the physical findings, I gave the opinion that the patient was suffering from an attack of chorea, there being previous history of this. When I saw her the second time, I obtained a history of catarrhal symptoms suggestive of influenza, and made a diagnosis accordingly which, following later developments in the course of the case, we had every reason to believe to be correct. The two remedies which were beneficial in this case were stramonium and baptisia, the symptoms being characteristic of the remedies.

The next was a married woman of about the same age. Her first symptoms were extreme weakness of the legs so that she collapsed under her own weight; there was also weakness of the right arm, and decided relaxation of the muscles of the right side of the face and ptosis of the eyelids, the eyeballs remaining centralized unless requested to move them and there was nystagmus of both eyeballs; with it there was lethargy. Later this case developed double facial palsy. This case recovered. The remedy given was gelsemium; later I recommended causticum.

Another was a man whose case had been very puzzling to the physicians and was looked upon as possibly one of general paresis. He was lethargic and there was speech disturbance, weakness of the right side of the body and relaxation of facial muscles of that side with deviation of the tongue; the eyeballs remained in a stationary position unless requested to move them, with nystagmus; there was falling to the right side when station was tested; suggestion of the Babinski reflex phenomenon, which I saw in two other cases. This case developed psychotic manifestations of the maniac depressive type; he having periods of emotion when given to crying, but for the most part was exhilarated and extremely talkative. His nervous and mental symptoms are improving. In the beginning, gelsemium was prescribed; following it I suggested belladonna for the mental symptoms; later agaricus, nux vomica and causticum.

I saw another case; a married woman whose chief symptoms were of the choreic athetoid type. The patient's arms and legs were in constant aimless motion; in fact, she could not control any part of her body. In this case there was a history of tonsillitis followed by rheumatic symptoms. Cerebration was slow, speech thick, nystagmus of the eyeballs, weakness of the right hand in comparison with the left. This latter case at first suggested the possibility of a disease of the lenticular nucleus, also known as "Wilson's Disease." A care-

ful study of her case, after she was brought to the State Hospital (due to her manifesting psychotic symptoms) permitted us to make a definite diagnosis of encephalitis.

In addition to the foregoing patient, we had two cases at this hospital, both women. The one aged twenty-four: Coarse choreiform movements manifested by jerking of arms and legs, especially of the right side; she also had auditory hallucinations. There was a history of rheumatism shortly before the onset of symptoms. The other case, a woman aged forty-six: Symptoms began with impairment of speech, disorientation, memory impairment, moderate euphoria, and neurological symptoms which had suggested to the staff the possibility of general paralysis. All three cases admitted to the hospital fully recovered. The prescriptions were aconite, gelsemium, stramonium, causticum, baptisia, agaricus, apis, belladonna and china.

From the remedies mentioned, you can readily draw your deductions as to why some of them were prescribed; taking into account more particularly the mental and nervous manifestations of these cases. Complete rest in bed is naturally an important part of the treatment, to be followed later by massage, hydrotherapeutic measures, and at all times the indicated remedy.

In all these cases it is important to study the etiology and look for the cardinal symptoms as well as differentiate from the conditions so well outlined by Dr. Mackenzie. He failed to emphasize the value and importance of prescribing the indicated homœopathic remedies in these cases.

DR. C. S. RAUE, Philadelphia: The diagnosis of lethargic encephalitis in childhood is much more difficult than in adults, for the simple reason that the conditions with which it is likely to be confounded, and from which it must be differentiated, are more common in children than in adults. It is practically impossible to make a differential diagnosis between the cerebral type of poliomyelitis and lethargic encephalitis. Even the laboratory findings will not help you. The cerebrospinal fluid is practically identical in the two conditions; and the symptoms are so similar that unless you are helped by an epidemic of either one or the other at the time, it is impossible to say in which category the case belongs. Until this subject of lethargic encephalitis came before us in the last few years, we did not have so much difficulty in diagnosing obscure cerebral cases in children: all we had to think of was meningitis, meningismus and poliomyelitis. Formerly I would examine a child with acute or subacute brain symptoms with more or less

confidence. I felt that I could diagnose tuberculosis meningitis without difficulty, and could recognize cases of poliomyeloencephalitis. Now I do not feel the same way. If I see a case of poliomyeloencephalitis or lethargic encephalitis and perform a lumbar puncture, and the next day the symptoms have disappeared, I realize that the case was only one of meningismus. I have seen several cases like that recently. In other cases, you perform a lumbar puncture for what appears to be a similar condition, and the patient does not get better, but dies. You have not had a chance to observe it long enough to see what it was. So I feel that it is very difficult to diagnose encephalitis in childhood. We can make our diagnosis only by exclusion.

DR. WILLIAM M. HILLEGAS, Philadelphia: May I not take it that the discussion of a paper on sleeping sickness before a section on eye diseases is because of the prominence of eye symptoms in this disease? No pathological work, so far, has isolated a definite virus or germ. There are, I believe, more cases of sleeping sickness than the general practitioner thinks. The fact that Dr. Mackenzie brought out, that lethargic encephalitis is a febrile disease, may be rather confusing. He said that it is indefinite, rather than definite; but in the length of time that the cases run, there is often no fever at all. The eye symptoms are usually the first symptoms of lethargic encephalitis. For that reason, it is of much importance to have an oculist see the patient and give a clear report on the condition.

There is one symptom that has not been mentioned that is very prominent, and that is interference with accommodation without impairment of vision. The patient begins to look at a book at arm's length, as an old person does. The condition of the pupils is rather one of sluggishness than of true paresis. The prognosis concerning the eye symptoms is good, if the patient survives.

Very little has been said about treatment. I have records of two cases that were absolutely cured by homœopathic treatment by the general practitioner, in connection with a neurologist and myself. Do not neglect the homœopathic remedies in treating sleeping sickness.

DR. G. W. MACKENZIE, Philadelphia, closing: I want to thank those who took part in the discussion. I did not hear it all, because I was called outside for a part of the time, but I came back in time to hear influenza referred to as a condition which might possibly be confused with sleeping sickness. According to the literature it has been repeatedly mistaken

for it. There is a point of differentiation that I want to mention: The toxins of influenza seem to act selectively on the eighth nerve. Eighth nerve neuritis following influenza is one of the most common complications. We can determine that by the presence of nystagmus and shortening of bone and air conduction, as well as other characteristic signs.

Dr. Hillegas very wisely mentioned paralysis of accommodation or convergence that is found in encephalitis. The eye symptoms are the most prominent and constant symptoms in this disease. Among these symptoms, as I mentioned in the paper, we have mydriasis and cycloplegia. I neglected to mention in the paper that paresis of adduction may be present even when the two eyes work synergistically together to the left or right. In one case that I had, the patient was wearing plus two added to his distant correction, which is proof of the presence of cycloplegia.

The next question concerns treatment. I believe that mercury, and perhaps salvarsan (although in my cases salvarsan proved inefficient, and the patient developed symptoms of arsenic poisoning) may be used with success. African sleeping sickness is due to a trypanosome inoculated by the tsetse fly. Relapsing fever and syphilis and sleeping sickness are due to microorganisms belonging to the same family. All of these diseases show a more or less positive Wassermann reaction. Furthermore, all respond well to antiluetic treatment. On account of the similarity of our present epidemic of sleeping sickness to the sleeping sickness of Africa, one may be justified in speculating that lethargic encephalitis belongs to the same group of diseases (syphilis, relapsing fever and African sleeping sickness).

In one desperate case of sleeping sickness mercury worked very satisfactorily.

I am interested in learning the etiological factor in this disease. The best pathological work on sleeping sickness was done by Dr. Henrietta Calhoun, at the University of Iowa, and she presents very interesting pathological specimens. If one looks at the specimens he cannot but be impressed with the fact that they look very like the neuropathology of syphilis. In fact, I could not find any difference between the two. This fact also suggests a family relationship in these two diseases, and therapeutically they all seem to respond well to the same remedies (antiluetic).

One investigator, on the other hand, collected a series of sixty-eight cases in which spinal Wassermanns were made, and he found every one was negative. I am inclined not to accept his experience for this reason, that I doubt whether we can go

along the streets of Philadelphia and find sixty-eight consecutive, apparently healthy individuals, all showing negative Wassermanns.

Dr. Raue mentioned tuberculous meningitis and convulsions. Convulsions may be present as an early symptom, and terminate in the opposite condition of paralysis. In meningitis, we get increased reflexes, convulsions, spasticity, rigidity of the neck, etc. In sleeping sickness, we get a very limp neck, with paresis of the motorcranial nerves. Furthermore, in meningitis, the patient usually shows symptoms referable to the eighth nerve, and particularly the second nerve. In very few cases of tuberculous meningitis will there be absence of involvement of the second and eighth nerves, including the vestibular branch of the eighth nerve. In sleeping sickness, these nerves are peculiarly exempt.

I thank you, gentlemen.

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#### THE RELATION OF THE PENNSYLVANIA BUREAU OF MEDICAL EDUCATION AND LICENSURE TO THE PRACTICE OF MEDICINE

WILLIAM M. HILLEGAS, M.D., PHILADELPHIA

(Read in Part before the Germantown Medical Society, February 21, 1921.)

MANY doctors think of this bureau only as an examining board, and as a bugbear to the student, which he fears all through his college life, wrongly, of course. In many states such a bureau is nothing more than an examining board, they have no other powers delegated to them, but in Pennsylvania the semi-annual examinations are but a small part of the work of the bureau. In a broad sense the duty of the bureau is to safeguard the public, to see that the doctors licensed to practice medicine in Pennsylvania are competently trained and not a menace to public health. The scope of work embraced in the duties of the bureau is broad and can be divided into three very definite phases in relation to the practice of medicine:

1. Licensure of applicants to practice in Pennsylvania.
2. Prosecution of illegal and unfit practitioners.
3. Raising and supporting the standards of medical education in colleges and hospitals.

Besides these duties, the bureau is empowered by a sep-



arate legal statute, to supervise midwifery in Pennsylvania. A midwife is really an anachronism in this year of our Lord 1921. This problem has been much improved in Pennsylvania, especially in the large cities, by a vast amount of tedious work and thus a seemingly necessary evil is in pretty fair shape today.

The bureau is also delegated to examine and license chiropodists, and those wishing to practice Physio-Therapy (massage and its allied branches). The bureau also examines and licenses anyone wishing to practice Drugless Therapy in any one of the many cults, with the exception of the Osteopaths, who have a separate board. And here just a few words in reference to the present agitation of the Chiropractors to obtain a separate board through legislative enactment. They are a separate group asking for special legislation, unwilling to accept the necessity for preliminary education. The first duty of the State is the care of the public health. When the State permits those with no competent scientific knowledge, who know nothing of anatomy, of physiology, of pathology, of infection or immunity, to treat disease, the State fails in its duty. The bureau is unqualifiedly against any reduction in the educational requirements for the practice of the healing art in Pennsylvania.

No definition of the "Practice of Medicine" was included when the Medical Practice Act was put on the Statutes in Pennsylvania in 1911. However, in several other states decisions have been handed down by the courts, including the higher courts, and all these decisions have defined the practice of medicine as extending to anyone who is practicing "The Healing Art."

LICENSURE.—Why are any boards of medical licensure necessary?

No member of any Board of Medical Licensure can be a better judge of the qualifications of the student than is the man who is selected to teach in the university because of his personal knowledge of the subject, and a medical diploma ought to assure its holder the right to practice medicine anywhere. But, as long as there continues the certification of inadequately trained doctors by some commercially bent medical schools, and until there has been established and enforced a national standard for medical colleges as high as the standard in any college, until this, some form of supervision must be

enforced to prevent incompetent doctors from practicing in the Commonwealth of Pennsylvania. Many universities and colleges (and this includes Hahnemann, of Philadelphia), have established a standard which guarantees educational qualifications sufficient for its graduates to practice medicine without further examination by any State Board, but this is not true of all, more the pity; it is indeed unfortunate that some medical colleges were ever granted charters.

Under the Medical Practice Act in Pennsylvania a very definite standard is set for such medical colleges whose graduates are to be admitted to examination for licensure to practice in Pennsylvania, and this standard is a high one. The bureau does not accept the rating of the American Medical Association or of the American College of Surgeons, *per se*, but personal inspection by members of the bureau is made and this extends also to colleges outside of Pennsylvania. There are in the United States today 85 medical colleges; the Pennsylvania Bureau lists 70 of these as approved and all but 22 of this 70 have been personally inspected; also some of those colleges that are not on the approved list. From the promises made in annual catalogues of colleges they would all seem to qualify, but on careful inspection it is not very difficult to determine whether they carry out fully those promises. The inspection of medical colleges and hospitals entails far more work on the bureau than any other of its duties.

There are several forms of examination for licensure in Pennsylvania. Written examinations are held semi-annually and the questions are largely practical rather than didactic. It would seem desirable that there might be compounded examinations—written, oral and practical, but there are too many applicants, between 350 and 400 each year. The sympathy of the bureau is distinctly with all applicants for licensure, realizing that most of them do not require examination and a very careful review is made of the papers of all candidates. There are held also, bedside examinations for doctors who have been practicing ten years or more in other states, but who cannot qualify for reciprocity, and these examinations are entirely practical.

Pennsylvania has reciprocity with thirty-three states and this is more than any other state has, but this is not unlimited reciprocity. Licensure by reciprocity or certification of credentials is based in Pennsylvania on the same requirements as

for those applying for written examinations. It is eminently fair that reciprocity should only apply to those holding diplomas from medical colleges recognized as in good standing by the licensing authorities of the state in which the applicant seeks the right to practice medicine. Pennsylvania recognizes the certificates issued by the National Board of Medical Examiners, as do seventeen other states. This board has no legal status and cannot issue a license, only a certificate. A National Board seems an ideal arrangement, and its development in the future may amount to something worth while.

**PROSECUTION OF ILLEGAL AND UNFIT PRACTITIONERS.**—In this work the bureau is hampered by lack of funds; however, considerable progress is being made. Prosecutions of illegal practitioners are conducted by the district attorney's office in the separate counties, but the collection of exact evidence entails some expense, which is not provided for by any law. A few medical quacks have been arrested, and notice to cease practicing has been served on some doctors who failed to understand that working in an industrial establishment is the practice of medicine and requires a state license. A large number of drugless healers, many claiming to be Chiropractors, have been discovered, who are practicing without licenses and quite a few of these are now under arrest and indictment. In regard to osteopaths who have been prescribing medicines, a conviction was obtained in Philadelphia, and the bureau is now awaiting the decision of the higher court on any appeal by the defendant before proceeding against others. (Since writing this Judge Trexler has sustained the decision of the lower court.)

In reference to possible suspension or revocation of license of unfit practitioners a quotation from the Medical Practice Act will not be amiss: "The bureau may revoke or suspend the right to practice medicine and surgery in this state for any or all of the following reasons, to wit: the conviction of a crime involving moral turpitude, habitual intemperance in the use of ardent spirits or stimulants, narcotics, or any other substance which impairs the intellect and judgment to such an extent as to incapacitate for the performance of professional duties," and further: "The bureau shall refuse to grant a license to practice medicine or surgery to an applicant upon the presentation of a court record showing the conviction in due course of law of said person for producing or aiding or abetting in

producing a criminal abortion or miscarriage, by any means whatsoever; and further, the bureau, upon such evidence and proof, shall cause the name of any physician licensed to practice medicine in the Commonwealth of Pennsylvania to be removed from the records in the office of the Superintendent of Public Instruction," or in other words to revoke his license. Note that the conviction for abortion must be established by court record and such is also the case for any crime involving moral turpitude; the bureau is *not* a trial court. Relative to possible suspension or revocation of addicts to narcotics or liquor, proof of the use of the same to such an extent as to render the doctor a menace to public health if he continues to practice medicine, must be established and this is usually brought before the bureau by the Bureau of Drug Control, which operates under the State Department of Health. Convictions under the Harrison Narcotic Act or the somewhat similar Pennsylvania State Narcotic Act, are ample cause for a citation for a hearing before the Bureau of Medical Licensure. The Bureau of Drug Control states that a remarkable check to the indiscriminate sale or dispensing of narcotics by physicians has taken place since several licenses have been revoked.

**MEDICAL EDUCATIONAL STANDARDS.**—Perhaps the most important part of the work of the bureau is the raising and preserving of the standards of medical education. By the admirable diction of Dr. Aug. Korndoerfer, Sr., and John J. Tuller, the title of the bureau is the Bureau of Medical Education and Licensure, instead of simply Medical Licensure, and by the way, few know how much credit should be given these two men for their hard work at the time of the passage of the Medical Practice Act in the Pennsylvania Legislature in 1911; when there was much dissension. It is now well agreed that the creation of this bureau was not merely wise, but a step far in advance of former boards of licensure in Pennsylvania and the bureau in its administration has ever been held as fair, unbiased and free from sectarianism.

The members of the bureau do not arrogate to themselves superior knowledge or superior methods of teaching, but they can sense the trend of training in each medical college by close watching, especially of the laboratories and the practical clinical training, and they can thus evaluate each college. This is how it works out: There is a list of medical colleges which

have been inspected and approved, and the graduates of which are admitted to examinations for licensure in Pennsylvania, and in most cases personal inspections have been made before approval. Weak colleges have been improved as a result of these inspections partly by their wish to be graded up to the highest standards, and helped also by having their weak spots shown to them.

Every licensing board is vitally interested in the curriculum of medical colleges. The time has arrived when it is necessary to give attention to the education of the future physician during the fifth or interne year, as well as the preceding four years spent in the medical colleges, and as usual Pennsylvania is well in advance of other states in this work. Considered from the standpoint of licensing, the hospital year may well be regarded as the most important part of the medical student's preparation for practice, as it consists entirely of clinical training. Ten states require an interne service before licensure.

Five medical colleges have recently added to their requirements, before issuing a diploma, a year of interne service in a hospital under the supervision of their faculty or some member of their faculty. This seems a worth while measure and its further development may relieve licensing boards of their supervision of interne training. However, at present in Pennsylvania such control is placed in the hands of the bureau, which publishes annually a list of those hospitals in Pennsylvania approved for interne credits. The investigation leading to such approval is pretty rigid; Pennsylvania maintains a minimum standard, which is a little higher than that of the American College of Surgeons, in that more attention is paid to details. Many hospitals, not those conducted with teaching institutions, however, do not seem to fully grasp the educational part of interne service and this entails the continued necessity of the bureau to inspect them and keep them up to the spirit of education and progress. As a result of these annual inspections, the status of the Pennsylvania hospitals has been raised to a most enviable position, and it has certainly resulted in better medical service to the patients in these hospitals.

STANDARDIZATION OF HOSPITALS.—The Bureau of Medical Education and Licensure is particularly proud of the results accomplished in the standardization of the hospitals in Pennsylvania, which, as a group, are today in far better shape than in any other state in the Union.

Surgeon-General Ireland, of the United States Army, recently requested the bureau to make an inspection of the Walter Read Hospital, at Washington, D. C., for possible recognition of interne service in the four General Army Hospitals, which are just beginning to use internes, feeling that if these hospitals were qualified under the Pennsylvania regulations, they would qualify in every other state in the Union. This inspection was made and the bureau is convinced that an interne would receive valuable clinical and educational training during his service at the Walter Read Hospital.

The writer has recently seen a copy of a letter to Governor Sproul from Dr. John Bowman, Secretary of the American College of Surgeons, in which he complimented Pennsylvania on the high state of efficiency of its hospitals.

The following is a brief outline of the status of the Pennsylvania law and the regulations of the bureau in relation to interne credits for hospitals: A rotating service of twelve months or more, diversified so that a fairly balanced proportion of time will be devoted to surgery, medicine and obstetrics, pathological laboratory, X-ray laboratory and anesthesia. The hospital must have the proper physical equipment to render these various services adequately. After all the physical qualifications have been complied with by the hospital, the determining factor in the value of the clinical training of the interne rests on the staff. The bureau requires that each department of the hospital shall have at its head a man proficient in the special field in which he works in that hospital. A staff often has on its roll successful, capable doctors who are unwilling or unable to give the time and a lot of hard, unpaid work to the clinical training of the interne. What educational value can an interne possibly receive from such men, known to be successful in practice and prominent socially, if they practice careless, unscientific medicine? Their natural query would be, "What's the use?" And what good if the staff is composed of well-trained, competent medical men if they are not properly organized and work in a co-ordinate diagnostic and therapeutic method, availing themselves of all laboratory facilities, careful case recording and autopsy study?

The bureau lays particular stress on several points in its evaluation of hospitals:

1. A fair balance between the number of surgical and medical cases, realizing, however, that all hospitals have a larger proportion of surgical cases.

2. Careful and thorough writing of case records and histories by the interne, supervised by the members of the attending staff.

3. Laboratories—Idle laboratories indicate inefficiency or incompetency somewhere and demand investigation.

No attempt will be made at present by the bureau to raise any further the requirements in the hospitals, but rather to get the most good out of all present facilities.

No hospital has an inherent right to an interne, although there seems to be in some quarters a feeling that such should be the case. There are requests throughout the United States for over 9,000 internes annually, and only about 3,300 graduate physicians each year. It is no more the province of the state or of any administrative body such as the bureau, to furnish internes to any hospital, notwithstanding the needs of the hospital, any more than to supply them with a superintendent. The duty of the bureau, as outlined in the Medical Practice Act, is to approve of such hospitals as can furnish satisfactory training and instruction to the interne. If any hospital is unwilling or unable to give the return to the interne which he has a right to expect, it is absurd on its part to expect the state to practically force the interne to go to it by adding its name to an approved list. The fact that any hospital does not appear on the Pennsylvania list of approved hospitals is no criticism of the ability of that hospital to fulfill the needs of the community in which it is located. It would, perhaps, be better for all concerned if some hospitals would not ask for interne credit, in that way avoiding the necessity of complying with the regulations of the bureau. The bureau feels confident that any hospital of 100 beds or more could qualify under the present regulations without any burden upon the hospital. It is not sufficient for any hospital to remain content with the fact that it has been placed on the approved list; such complacency will be fatal; to remain on requires continuous vigilance and hard work.

The co-operation of the medical profession with municipal and state authorities, and with the State Board of Medical Education and Licensure, will greatly enhance the work of the bureau in maintaining the present high standard of medicine and medical education in Pennsylvania, of which we all have a right to be justly proud.

**SARCOMA OF THE CHORIOID**

FRANK O. NAGLE, M.D.

(Read before the Homœopathic Medical Society of the State of Pennsylvania, September 13, 1921.)

SARCOMA of the chorioid is a rare disease. It is a rare disease for the specialist as well as the general practitioner. Never mind the statistics concerning its frequency. They vary. In my experience at the Hahnemann Hospital, I have only seen four cases of intra-ocular tumors of the eye-ball during the past ten years. One was a case of glioma of the retina, enucleated by Dr. Wm. D. Speakman four years ago. Another one was this winter, a case of glioma of the retina referred to the clinic by Dr. A. M. K. Maldeis, of Camden, and two sarcoma cases which I had experience with myself.

I thought it would be interesting to report a case of sarcoma of the chorioid, which I had an opportunity of observing from its very incipient stage. This case presented itself to me during the past winter, and the eye-ball was removed in April at the Hahnemann Hospital. Again, I thought it would be of interest to the profession to have a quick review made of the literature of this subject. Another reason why I selected sarcoma of the chorioid for my paper was the fact it gave me an opportunity to present some pathological sections, gross and microscopic before the Society, which I have been using in my course at Hahnemann.

As far as the practical value to the Society is concerned, I believe the question is not one of diagnosing this condition, but I think the art of medicine lies in the fact of treating our patient, gaining his or her confidence by gradually leading up to the seriousness of this condition. In other words, it is a mighty difficult thing for a patient to give up the eye which still has some vision in it, even where a diagnosis of sarcoma has been made. The gentle art of treating these patients was impressed upon the students by no less a man than Dr. Uhthoff.

The first intimation of intra-ocular sarcoma was in the beginning of the nineteenth century. The literature then abounded with discussions upon the subject, whether it was possible for it to occur. Later from our study of the literature, we find a distinction was made between malignant and benign sarcoma based on the fact whether there was pigment present or not in the tumor. It was really Virchow who made



a special study of sarcoma of the eye-ball at Von Graefe's clinic and gave us a definite classification for tumors of the eye. He threw aside entirely the previous discussions as to whether the tumor was pigmented or non-pigmented, and gave us the dictum that the histological structure of the tumor itself was sufficient for the diagnosis and pigmentation of the tumor was secondary. Upon this new pathological basis, the clinical side of intra-ocular sarcoma was systematized by men like Von Graefe, Schweigger and later monographs from Napp, Hirshberg and Fuchs.

Of primary intra-ocular tumors, we have principally two tumors to consider: (1) Sarcoma of the uveal tract. (2) Glioma of the retina. To these may be added, by way of exception, metastatic carcinoma of the chorioid, and metastatic sarcoma of the chorioid.

**SARCOMA**—The sarcomatous growths of the chorioid are classed by Coppez as follows: (1) Interfascicular endotheliomata, those which develop from the endothelial cells of the lymph vessels. (2) Peritheliomata, those which arise from the perithelial cells of the blood vessels. (3) Sarcomata proper, those which arise from the cells of the stroma of the chorioid, and of the adventitia of the vessels. Alveolar sarcoma, which is rare in the chorioid, but common in the tissues of the orbit, is undoubtedly largely formed of endothelial cells. As the varieties of tumor mentioned in this paragraph all spring from mesoblastic tissues, they should be considered as belonging to the same group.

Sarcoma may occur in any part of the uveal tract (iris ciliary body) in the chorioid, nevertheless, it occurs less frequently in the interior part of this tract. According to Fuchs, 6 per cent. of all sarcoma of the uveal tract occur in the iris; 9 per cent. in the ciliary body, and 85 per cent. in the chorioid. Sarcoma occurs most frequently in the years of 40 and 45. There are a few cases reported as early as the age of 15, and a few authentic cases at the age of 70.

It does seem from a history of the cases, injury may play a pre-disposing cause, some authors claiming 6 per cent. of their cases giving a definite history of injury of the eye-ball, while others report at least 10 per cent. of their cases with history of injury. A most unusual case was reported in 1884 where an injury of the eye-ball was followed by sarcoma of the chorioid four months later (Schiem-Gemusems) (*Jahresbericht d. Augenheilk, Basel 1884, 1885*).

My idea of sarcoma of the chorioid was, it was always a uni-lateral condition. However, Dr. Fred C. Peters called my attention to a bi-lateral intra-ocular sarcoma reported in Philadelphia this past year.

As far as the growth of the tumor is concerned, sarcoma of the chorioid can be in two forms: (1) Circumscribed sarcoma. This assumes a spherical shape with a constriction at its base where it passes through the retina. The growth of the tumor seems to be from the centre of the mass. (2) Diffuse sarcoma—where the chorioid in its entirety is thickened with the tumor. This is rather a rare form of the growth of sarcoma, not many cases being reported by the literature. Fuchs in his literature of 1882 mentions five cases. I am glad to be able to show you a pathological section of this form of growth of the sarcoma.

All text books divide the clinical phase of sarcoma of the chorioid into four stages: First, the non-inflammatory stage. The patient simply complains of a disturbance in the visual field, corresponding to the location of the tumor. With the ophthalmoscope, we see a circumscribed difference in level between the normal retina and that covering the tumor. The veins over the tumor are dilated, tortuous, and are of a darker color. The tumor itself has a gray or peculiar yellow gray color. This color is not always present and indeed it is impossible in many cases to tell whether a simple retina detachment is present or a beginning tumor, for both conditions may exist simultaneously. The retina is detached very early in sarcoma of the chorioid and the space between it and the tumor is filled with an albuminous fluid. Therefore, only in the late stages of the tumor do we find a partial adhesion between the retina and the chorioid. Von Graefe made the observation that in all simple retinal detachments, we have a diminution in the tension of the eye-ball, while in sarcoma of the chorioid we have an increased tension of the eye-ball. He also gave the dictum to the profession that in all cases of spontaneous retinal detachment occurring in a non-myopic eye between the ages of 40 and 60, one should think of tumor. A sector like dilatation of the anterior ciliary veins is suggestive of the presence of an intra-ocular tumor. This stage lasts six months to a year.

The second stage is the inflammatory stage. The picture then is one of an acute inflammatory glaucoma. This second

stage does not last as long as the first. It is in this stage that we often have the usual operative procedures of glaucoma performed with negative results.

The third stage is the stage in which the tumor breaks through the sclera. This can be either anterior or posterior. This stage is marked by a lessening of the symptoms, especially of pain. When the tumor breaks through the anterior part of the eye-ball, it is usually in the neighborhood of the corneo scleral junction, and is accompanied by hemorrhages. At times a chronic iridocyclitis may intervene with the resultant shrinkage of the eye-ball. There are some few cases of sympathetic ophthalmia reported in the literature from sarcoma of the chorioid, where the course of the disease took on the form just mentioned.

The fourth stage is the stage of the metastasis. The majority of metastasis occur in the liver and lungs. Sarcoma of the chorioid belongs to the malignant diseases of the eye-ball. The prognosis of the patient's life depends upon which stage the eye-ball has been enucleated, but the sooner enucleation is performed, the more favorable the outlook. The metastasis may occur in other parts of the body and death is the result even where the eye-ball has been removed in the first stage. From the statistics, we know metastasis to the other parts of the body are more frequent in sarcoma of the choroid than in glioma of the retina. These various stages of sarcoma will cover a period of two to four years, and at times they are not easily distinguished from each other.

**HISTOLOGY**—Intra-ocular sarcoma is no different from a histological standpoint than in any other part of the body. It is a connective tissue tumor with a prevalence of the cellular elements. As far as the cells are concerned we find we have round and spindle cells present in the tumor. An intra-ocular giant cell sarcoma is exceptionally rare and only a few cases are reported. The cellular elements may be large or small. The majority of cases of sarcoma of the chorioid are of the small spindle cell variety. Probably one half of the cases are of this form. The small round cell sarcomas are more malignant and are of a more rapid growth and form metastasis sooner than any other variety of sarcoma. They also mostly develop from the layer of larger chorioidal vessels. The inter-cellular substance of the tumor may be of a varied structure. Usually the cells are imbedded in a regularly distributed retic-

ula or they may apparently form bundles (Alveolar sarcoma). Vessels are usually numerous in the inter-cellular substance. As a general statement they are found less frequently in spindle cell sarcoma than in round cell sarcoma. At times vessels in the tumor form broad canals without any apparent vessel walls being present. The more vascular the sarcoma, the more dangerous it is for it to form metastasis in other parts of the body.

There has been a great deal of discussion concerning the formation of the pigment. It can be from the chromatophores of the normal chorioid or from the red blood corpuscles. As a matter of fact, Vossius by microscopic chemical examinations has been able to differentiate between the pigment which is produced as a proliferation of the normal physiological pigment and the pigment which has its origin from the blood.

As far as the origin of sarcoma of the chorioid, Briere in 1873 claimed leukosarcoma originated from the choriocapilaris and melanosarcoma developed from the deeper layers of the chorioid. Fuchs in 1882, in a monograph, claimed that sarcoma, whether pigmented or unpigmented, developed from the deeper layers of the chorioid. This was accepted as a final word by the profession for many years until recently. The proof has been given that sarcoma of the chorioid is no exception from sarcoma of any part of the body, and it may arise from any of the layers of the chorioid. While the chorioid has a tendency to formation of the sarcoma as far as formation of tumors is concerned, metastatic sarcoma of the chorioid from sarcoma of other parts of the body is very exceptional. This simply confirms the old saying of Virchow that those organs which have an especial tendency to the formation of a peculiar type of tumor formation are rather exempt from metastatic tumors of the same character from other parts of the body.

**THERAPY**—Enucleation of the eye-ball as early as possible, as soon as the diagnosis has been made, which is followed up by the action of radium treatment of the orbital contents is the present day treatment. The action of radium upon intra-ocular sarcoma is not quite satisfactory, and we expose the patient to a risk in delay. Radium has been tried on glioma of the retina. Uhthoff records three cases where shrinking of the eye-ball took place, which was followed by iridocyclitis.

**REPORT OF CASES—General.** My preparation of this paper was complete in July. I was satisfied to report one case before the Society. A very unusual coincidence has taken

place within a period of a few weeks. I had the opportunity of studying and removing two other cases of intra-ocular sarcoma; in other words, I have seen three cases of sarcoma of the chorioid, a very rare occurrence for any man to have in his experience.

The first case was referred to me by Haussman & Company, opticians, of Philadelphia. Patient has always been refracted by them and reported there for glasses because of a blur of the left eye. I saw the patient in November, 1920. A small circular retinal detachment in the macula region was present. There was absolutely nothing present to detect or even suspect the presence of a tumor. I gave the patient a favorable outlook as to having any future trouble with the eye-ball, but I told her to report to me now and then to see if the retinal detachment was progressing. March 15th, patient came to me with a history of having terrible pain in the eye, vision all gone. Clinical examination showed the presence of acute glaucoma, and formation of a dark mass in the vitreous. Other details of retina were impossible. I called in Dr. Wm. D. Speakman, and in a careful and diplomatic way, we broke the news to the family of the condition. Even then we had to wait three or four weeks before the patient would consent to removal of the eye-ball.

SECOND CASE—This was a very unusual case, the patient being sent to the Hahnemann Hospital by Dr. George Bickley with a history of having a sore eye, and a piece of skin removed from the inner side of eye-ball. Examination was made by Dr. Fred C. Peters and myself soon after the patient was admitted to the hospital. From all appearances it seemed as if a pterygium had been removed. We treated the case as post-operative for pterygium, and in the course of three or four weeks' treatment at the Hahnemann Hospital, the eye-ball became perfectly normal with the exception of a few scars on the cornea. The vision was perfectly normal, and fundus examination was absolutely normal. Impossible to detect anything. The patient left the hospital and everything was well until the first week in August, when she reported to Dr. George Bickley because of a lump on the side of the eye. He immediately had her sent to the eye ward of Hahnemann. Dr. Frank Benson first saw her and made a tentative diagnosis of sarcoma of the ciliary body. I removed a piece of this tissue and sent it to the pathological department where Dr. Samuel Sap-

ington and Dr. George Hopp pronounced the specimen as one of melano sarcoma. The fundus examination at this time only revealed in the neighborhood of the ciliary body a small mass. The vision was absolutely normal, 20/20. I enucleated the eye-ball and I bring the specimen before you today. After-treatment consisted of radium applications by Dr. Frank Benson.

**THIRD CASE**—This case was referred to me by Dr. Warren Mercer in November, 1920. Patient complained of a loss of vision in the left eye soon after pregnancy, with a history of having an acute nephritis. Upon examination I found there was absolute loss of light perception in some parts of the visual field. Externally the eye-ball was perfectly normal in every detail. Examination with the ophthalmoscope revealed a detached retina, especially of the upper quadrant of the retina. Patient was treated at the Women's Southern Hospital, both from a medical and an ophthalmic standpoint. The albumin in the urine had disappeared when she was discharged from the hospital.

I saw the patient again in May of this year, 1921. The ocular condition was the same. No pain whatever. The first week of August, 1921, acute pain developed in the eye-ball and she came to Philadelphia and entered the Women's Southern Hospital. Dr. Fred Peters and I studied her for a few days and we determined enucleation was the proper thing. Her condition then was one of acute glaucoma, and in the course of a week's observation we had the opportunity of seeing the retina detachment pushed forward and a yellowish gray mass coming up to the anterior part of the vitreous. I removed the eye-ball and am glad to report the case was one of correct diagnosis. I have the pleasure of bringing the eye-ball to the members of the Society.

I would like to thank the chairman of the Ophthalmological Bureau, Dr. William Speakman, for encouraging me to study the literature and give it in a condensed form for members of the Pennsylvania State Homœopathic Society.

#### LITERATURE.

- Graefe—Saemisch. *Handbuch der Augenheilkunde.*
- Graefe's *Pathology of the Eye.*
- Parson's *Pathology of the Eye.*
- Week's *Text-book of Ophthalmology.*
- Ball's *Text-book.*
- Fuch's *Monograph on Sarcoma.*

**EYE INJURIES****FRED C. PETERS, M.D., PHILADELPHIA**

(Read before the Homœopathic Medical Society of Pennsylvania, Sept. 13, 1921.)

INJURIES to the eye have always been classed as one of the most important subjects by ophthalmologists and certainly should be of great interest to the employer of labor. As a matter of fact, many large factories will not allow even their plant physician to treat their eye injuries. These cases are referred to a man specializing in this kind of work. From a financial standpoint it pays the insurance companies better to send their cases direct to an ophthalmologist rather than have them referred indefinitely to a hospital for treatment.

The average interne not only does not have sufficient experience in this work, but by the time the case is referred to the dispensary, twenty-four to forty-eight hours have been lost. This is valuable time because a foreign body retained in the eye, whether a major or a minor injury, should be removed as soon as possible and the first twenty-four hours is by all means the time of election for removal.

This series of cases numbers well over a thousand which Dr. Frank O. Nagle and myself have seen and treated. First, the management of the patient is extremely important even in the minor injuries, and it is very difficult to have the man appreciate the seriousness of a foreign body even on the cornea, and unless the condition is explained to him, he will neglect to carry out the treatment or fail to return for further treatment. Even in the most simple foreign bodies, the man is kept in the offices for at least one half an hour, when the cornea is frequently bathed with a 20 per cent. argyrol solution, followed by a corneal massage with yellow oxide salve. This is not only stimulating but serves as a protection to the corneal abrasion, relieving the lid irritation. We have found it is advisable to completely remove any stain or discolored areas remaining after the foreign body has been removed, as this, if allowed to remain, will only prolong the irritation. We impress the patient with the idea that his discomfort will be increased following removal, because we have really produced a new injury. At the longest this will last about twenty-four hours as we have found it takes about this

time for the corneal epithelium to regenerate after removal of an artificial foreign body.

The greater percentage of our cases were seen the second day following injury. The percentage seen the first day was small, the remainder being seen several days after injury.

The two great factors resulting in permanent eye injuries as the result of a minor injury are: First, delay in treatment. Second, improper treatment such as is made by the foreman of the shops, or a man in the shop who seems specially apt at this kind of work. Permanent injury may easily be accomplished secondary to a simple abrasion of the cornea, as the corneal epithelium serves as a protection from pathogenic organisms which are always present in the cul de sacs. When infection presents itself, it may be limited to a small area outside the visual path with little or no visual disturbances, or may go to abscess formation—an ulcer serpens, which, if not involving the centre in the beginning, will, if not controlled, ultimately cause scar tissue formation of such density as to destroy or greatly impair the visual acuity. Incidentally, we do not hesitate to use the actual cautery on all beginning corneal infections, although the cautery itself will cause some scar. We have found it gives more reliable results than the other methods, such as alcohol iodine and the acid cauteries. The infection in not limiting itself to the cornea, may go to perforation and infection of the vitreous, resulting in panophthalmitis, requiring enucleation.

The major injuries are those that penetrate the globe. These cases require an early diagnosis whether or not a foreign body is present, and if present, find its location.

The great factors in making a diagnosis are the history, X-ray and magnet. (1) The history as to the kind of work being done at time of accident, whether there was pain immediately or shortly following. It is interesting to note there is usually more pain in the minor injuries than in the major ones. (2) The appearance of the eye-ball noting any laceration of conjunctiva or cornea. (3) Examination of the media, noting whether or not they are clear, and if clear, a thorough ophthalmoscopic examination is made.

The X-ray examination should be made the same day, if possible, a great asset to which is the Sweet Localizer. When, for any reason, the X-ray is not obtainable, the magnet should be used immediately. For office work, the hand magnet is



easily handled and efficient, but not always powerful enough, and it will be necessary, in many cases, to make use of the Hobb magnet on account of its greater pulling power.

A foreign body, to be retained in the globe and not cause trouble, must be sterile on entering and must not have carried any organisms with it. The tolerance of the tissues for its retention must be developed. The choroid and ciliary body are the most easily irritated from foreign substances, with the vitreous and retina next. The lens is especially tolerant for foreign bodies, because of its derivation and structure. Foreign bodies, being usually hot, are many times sterile. The occurrence of panophthalmitis is not as frequent as would be imagined. When retained in the anterior segment, they produce siderosis, discoloring the tissues.

When rupturing the lens capsule, a traumatic cataract will result. When retained posteriorly in the vitreous or retina, severe changes will occur, causing hyalitis, with shrinking of the vitreous, with ultimate detachment of the retina and atrophy of the entire globe. Sympathetic ophthalmia is supposed to occur more frequently where the original traumatism takes place in the uveal tract. Fortunately, this never occurs in the first ten days following injury, and occurs very infrequently at any time, very few cases being reported during the late war.

After the diagnosis of a foreign body and its location is determined, the great majority being metals, the magnet will do good work, and will accomplish wonderful results, our method of procedure depending on the locality. Those in the anterior chamber, free from iris, are very easily removed through the original corneal wound, which may have to be enlarged, or a new opening, which is made with a keratone immediately over the foreign body. Those in the iris are more difficult, both as to localization and removal. The magnet will often show a foreign body being present. If the tip is applied to the cornea, the iris where the chip is imbedded will be drawn up under the top, giving the patient severe pain. The iris in many cases will be prolapsed, engaged in the corneal wound. This must be relieved, otherwise we will have an interior synechia, which will be a source of irritation with a permanent impairment of vision. Therefore, in these cases a keratone incision is made, removing the foreign body and doing an ireectomy at the same time, removing that part

of the iris which is engaged in the wound. With no complications, these cases will retain normal vision, the result being a slight deformity due to the iredelectomy.

A foreign body in the lens, when not completely imbedded, should be removed immediately, but we have found where it is imbedded in the lens, it will cause no trouble other than that which has already occurred—traumatic cataract. For this reason, we allow it to remain until the cataract is fully formed and the eye is quieted down; the lens is then removed, the foreign body coming with it. When a foreign body has passed through the lens and is retained in the vitreous or in the coats of the eye, it may be removed through the anterior route, but in most cases, it is best to remove through a counter puncture through the sclera, never dragging it through the anterior route if the anterior segment is intact.

It is well to remember that the prognosis is very bad in all such injuries as these, a large number of such eyes being lost from trauma taking place at the time of the accident or trauma, due to the removal or infection; but we all know there are many cases in which we obtain useful vision, whereas if the metal were allowed to remain the eye would be lost. The removal of an intra-ocular foreign body is not an operation to be considered lightly, even by the experienced, and should be performed by none other than the experienced, as unnecessary traumatism is fatal.

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**A RETROSPECTIVE NOTE CONCERNING TREATMENT OF TONSILLITIS BY THE X-RAY.**—H. W. Van Allen, selected from his records fifty patients who had been treated more than three years ago by the X-ray for cervical adenitis. He communicated with these patients and inquired whether they had had subsequent attacks of tonsillitis.

The cases selected were those with a history of repeated attacks of tonsillitis and chronically enlarged tonsils. Eighty per cent. of those investigated gave no history of another attack of tonsillitis nor any irritation of the pharynx. Those cases which had had tonsillitis reported that it was of the acute type, and that no chronic irritation remained. The examination of the throat of these patients revealed, that in all of the cases the tonsils had been greatly reduced in size. The dose used was much smaller in amount than that which is being used by many operators of today. None of the cases developed telangiectasis, atrophy of the skin, nor permanent effects upon the salivary glands.—*Jour. of Radiology*, December, 1921.

## EDITORIAL

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### THE APPEAL OF THE MEDICAL LEGISLATIVE CONFERENCE OF PENNSYLVANIA

By the time these editorial remarks will reach our readers they will have received the appeal of the Medical Legislative Conference of Pennsylvania sent to them by the efficient secretary, Dr. E. A. Krusen, of Norristown. This appeal directs attention to the work of the Conference last winter, said work being of a character that will endure for all time. The members of the Conference worked very efficiently and unselfishly in their battle against compulsory health insurance, thereby preventing what might have become the most gigantic political octopus that ever threatened to throttle a commonwealth and destroy and prostitute a noble profession. The work of the Conference in its fight against compulsory health insurance may be regarded as so efficient as to kill the measure in every State in the Union, providing the medical profession in other States takes advantage of the large amount of material garnered in Pennsylvania, that they can make an efficient fight elsewhere.

Dr. Knowles, the President, and Dr. E. A. Krusen, Secretary-Treasurer, also direct attention to the defeat of the bill for a State Board of Chiropractic Examiners, which they tell us very candidly was only a temporary victory for the medical profession. The battle against chiropractics is not to be regarded as a battle against any particular system of therapeutics or treatment. It is a battle for the maintenance of the high standards of medical education now in force. The Conference has taken the stand that a medical practitioner of whatever school he may decide to join, must be educated. As to the regular medical schools, the requirements of the medical colleges is two years of collegiate pre-medical education; a strict medical course requires four years in a medical college, and one year internship in a recognized hospital. This standard must be maintained. At first sight it appears to be an unreasonable demand, because of the number of years required for the young doctor to obtain his education; a little thought, however, shows that it is not an unreasonable stand-

ard, because a preliminary education of a certain type is absolutely necessary in order that the prospective physician can understand thoroughly the fundamentals of the medical sciences.

The fight against the proposed chiropractic bill is only representative of a type. As soon as we let down the bars as to education for one set of practitioners, they must be let down for all, whereupon confusion and calamity must ensue. The position of the Conference respecting the chiropractics is one of opposition on educational requirements only.

The Conference solicits subscriptions from the physicians of Pennsylvania, one dollar per capita. This may be contributed individually, or from a local Society as a body. The contributions are to be sent to Dr. E. A. Krusen, Norristown, Pa.

The letter to the profession directs attention, furthermore, to the importance of physicians taking an interest in politics. Physicians are requested to register for the Primary Election to be held May sixth; they are also requested to interview prospective candidates and ascertain their ideas in reference to the public health and their regard for the medical profession.

The Editorial Committee of the *HAHNEMANNIAN* takes this opportunity of asking physicians everywhere to get into politics and vote at the primaries after learning of the attitude of would-be nominees on important medical legislation. Especially should our Michigan doctors go to the polls and assert themselves in a practical way.

The members of the Conference representing the State Homœopathic Society are Drs. E. A. Krusen, Norristown; J. Ross Swartz, Harrisburg; G. Harlan Wells, Philadelphia; John C. Calhoun, Pittsburgh; Thomas G. Mills, Harrisburg; and Clarence Bartlett, *ex-officio*, Philadelphia.

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#### THE MICHIGAN SITUATION AS WE VIEW IT

THE news that the Board of Regents of the University of Michigan has abolished the Homœopathic Medical Department is now ancient history. Officially described by the Regents themselves, the Homœopathic Department has not been abolished, but a merger of the two medical departments

of the University has been voted, and that, too, without any thought in mind of showing any disrespect or disparagement to homœopathy. Furthermore, it is asserted that for a long time members of the Board of Regents had had in mind what we would designate a Utopian or idealistic scheme forcing homœopathic and allopathic students alike to the same medical belief, and to the same character of knowledge of action of drugs and therapeutic results from administration of the same. This ordinarily sounds very liberal; virtually it is the converse, because under the circumstances it is not likely that more than one doctrine will be acceptable. The apparent concession to the homœopathic school comes in the form of an intimation that it is now the intention of the Board of Regents to legislate in the college curriculum two new chairs, one of Homœopathic Materia Medica, and the other of Homœopathic Therapeutics, the new incumbents to be given liberal facilities for original research.

We must confess ourselves as dazed at the situation. From the standpoint of the Regents the whole thing sounds well, and everything is in true accord; practically, the new plan, if ever put in force, means bedlam. The ostensible object when the present crusade against the homœopathic medical department was started, was economy. From what we can understand the net deficit of the homœopathic department to the University authorities was somewhere around \$20,000.00, which, as medical colleges go now-a-days, is an infinitesimal amount. The new plan, so far as we can view it, is not likely to reduce the deficit. Men of a calibre and ability to hold down the two chairs above named must also have a strong liberal personality. They must be experienced men, materia medica and therapeutic tyros have no place; they must be men who have been able to command good incomes in the past; they must also be in the prime of life, with their best days yet before them. To get such men at less than \$15,000.00 a year, apiece, is fanciful. The Regents themselves should know this, for they are alleged to be paying a Professor of Surgery \$15,000.00 per annum. Now a Professor of Surgery does not require anything like the ability as does a Professor of Medicine, or a Professor of Materia Medica, or a Professor of Therapeutics.

Dr. Horatio C. Wood, the celebrated Professor of Materia Medica in the University of Pennsylvania, once framed

the aphorism, if his son did not have the ability to be a physician he would make a surgeon out of him. There are volumes to be spoken in favor of such a text.

The expense of the proposed plan does not stop with the salaries of the incumbents. It is expected that these gentlemen will avail themselves of the liberal facilities afforded them for original research. Let us ask the question: Is it possible for any one "to research" all by himself? Why! Ridiculous! The incumbents thereof will be like a goose attempting the impossible feat of "flocking" by himself. Of course, if there is an honest desire to establish a complete laboratory of pharmacological research under homœopathic auspices, very good; we are delighted, because we know the world needs it, the profession needs it; but such a research laboratory will involve an expense of not less than \$100,000.00 per annum, which must be continued for many years before final results can be announced.

It seems very hard to understand the workings of the minds of those back of the proposed change. We can well understand that laymen, with limited knowledge of medicine and tired of the "battle of the schools" should endeavor to force liberality and unity. On the other hand we cannot fathom the psychology of the medical man whose object is to make all men think alike in matters medical. In the action taken by the Board of Regents in abolishing the homœopathic department we believe a distinct step backwards has been taken, for the following reasons: In the first place a respectable minority always has a good influence on an equally respectable majority, both in the way of restraint and also in the direction of competition for improvement. Secondly, the homœopathic department of the University of Michigan was sufficient of a success to be kept in operation for forty-seven years, and now, without any reason for proving it to be a failure, it has been abandoned by action of the Trustees. Thirdly, there have been many hundred physicians graduated from the University of Michigan, who hold the diplomas of the Homœopathic Medical Department; those diplomas are now the diplomas of a defunct institution; they are lowered in value; they have been repudiated by the action of the Board of Regents without due warrant. Fourthly, homœopathy is a good thing; this is admitted by the Board of Regents, otherwise they would not be ready to open bids of prospective candi-

dates to hold the Chairs of Homœopathic Materia Medica, and Homœopathic Therapeutics, respectively. If homœopathy is good enough for these chairs, then it was good enough for the department. If homœopathy should be eliminated as a medical department, then it should be eliminated so far as these chairs are concerned. Fifthly, the claim made, although never advanced publicly or officially as a reason for the change, of troubles within the homœopathic medical department of Michigan may be admitted, but it is alleged that similar conditions existed in the other medical department. Whatever they were they were never serious so far as our knowledge of the situation goes. If they did exist the Board of Regents, if they were real regents, must have known of them, likewise, if they were real regents they would at once have put a stop to anything subversive of discipline, not only in the homœopathic department, but in every other department as well. Sixthly, we cannot speak from knowledge or hearsay, but the usual experience with the law regarding directorates, trustee boards, and like bodies, is that the majority of the members thereof lend their names to the institution, possibly spend a little money, while very few make contributions of either brains or other labor. If the Board of Regents of the University of Michigan does do this, as an entire body, it is a different body from any that we have ever known of the class. Usually it is the custom of such bodies to depend upon the opinions and observations of one or two of the members, and then weakly acquiesce in the findings of the two or three, or possibly more, workers in the group. If this is the case, the Board of Regents was not competent to vote on the subject, and should have had sufficient self-respect to refrain from voting before making personal investigations. Seventhly, we are thoroughly convinced that there has not been much use in writing this editorial, excepting to let people know how we feel about it, and it may be that nobody cares; however, we wish to speak. It is settled with a finality that is irrevocable, spoken in a tone of infallibility, that the homœopathic department will cease to exist as a department at the end of June 30th, and that no further discussion of the subject is possible. Now that is our information; if the statement is true, what is the use? The matter is settled. Lastly comes the question, what are we going to do about it? While the profession at large throughout the country cannot do anything, the profes-

sion of Michigan can go to the polls, and if they cannot get regents to their liking, they can at least defeat the present Board of Regents who come up for re-election. Let the fight be carried, first into the primaries, and then to the final election; there is no use in wasting any time or money on the Regents. This may seem rather hard on the Regents, but when we think that after the head of a department has served under them for twenty years, or thereabouts, and when the age limit required his retirement, that department, under said Board of Regents, had been managed so incapably according to the ideas of the Board of Regents (we do not say that such is the case), that the said Board of Regents discovered that there was no understudy in that department capable, after his years of service, to assume the leadership in that department, and straightway they were obliged to send to the effete East to import a professor, or a professorial head, at a salary that we believe equals, if it does not exceed, any medical teacher's salary in the country.

We deprecate, and always have deprecated criticisms alleging motives, as such are hard to prove, and are very readily misunderstood. The best of motives often turn out to be the greatest vices, and the reverse. It has been said that hell is paved with good intentions; in this case there is at least ground for suspicion. It looks to us as though the whole issue was decided by the regents before the hearing of the homœopathic profession, that the regents knew exactly what they were going to do, and could not be altered in what appeared to be, to them, a divine purpose. Furthermore, things are made to look very queer indeed, because the homœopathic hospital is to be utilized at once, or more properly speaking, after June 30th, by the allopathic department. If the regents were half-way sensible, and actually sincere in their belief as to the uselessness of homœopathy they would have kept that homœopathic hospital open for the use of the incumbents of the brand new chairs, in order to show how inferior their treatment is to that of the great and only medical department, under the leadership of a high salaried dean.

On April 9, 1913, there appeared in the *Boston Journal* an article written expressly for this newspaper by Dr. Hugh Cabot. This article was entitled, "The Public and the Medical Profession." The following is a quotation therefrom: "The day of schools and systems of practice in medicine has



largely disappeared. It was part and parcel of the mystery of medicine and belonged to the art rather than to the science of medical practice. With the development of science, these have followed the disappearing trail of the tall hat and the gold-headed cane, and are of largely historical interest. The practitioner of medicine today who commands the respect of his fellowmen does so because of an honest attempt to deal with the facts, to use every assistance which science has given him and be honest both with himself and his patient. In a constructive effort such as is being undertaken here, schools and systems of practice with their attendant narrowness of vision have no place."

It would seem, therefore, that the Regents of the University of Michigan have acted largely in accordance with the above frankly expressed opinions.

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ON THE TREATMENT OF SARCOMA WITH ROENTGEN RAYS.—Otto Jungling, (*Strahlentherapie, Berlin*, February 15, 1921.) Jungling disagrees with Seitz, Wintz and other advocates of modern Roentgen ray therapy and states that the sarcoma problem will be solved if the dose for therapy is rectified from time to time until the proper percentage of the erythema dose is established and will be known as the "Sarcoma dose."

For clinical study, Keinbock has divided ninety cases of sarcoma treated by the Roentgen ray, into three groups according to the results: (1) those which show no clinical manifestations; (2) those which undergo a decided shrinkage; (3) those which are unaffected. Among the ninety cases, 16 were in the first group, 52 in the second and 22 in the third. These were treated by the old technic, using aluminum filters and short target distances. Jungling observing the results of the cases treated by using denser metal filters and longer target distances, finds that the ratio is slightly increased in the first group, but that the third group is larger, so that fundamentally, the problem is unaltered.

From his experience, Jungling has found that all sarcomata of the round cell variety, do not respond the same to Roentgen ray therapy, nor do all of the angiosarcomata or melanosarcomata varieties. Furthermore, sarcomata are more or less susceptible to the influence of the Roentgen ray according to their location. Thus, those tumors involving the lymph nodes, degenerate readily when irradiated, while only 10 per cent. of those involving the jaw bone, are influenced by Roentgen ray therapy. Surgery claims that 33 per cent. of the operations for sarcoma of the jaw, are successful.

From these observations, Jungling concludes that the most successful treatment of sarcomata, depends upon selecting the cases and advising surgery or Roentgen therapy according to the location and variety of the tumor, rather than attempting to develop a definite dose which shall be suitable to all cases.

## GLEANINGS

## MEDICINE.

Conducted by CLARENCE BARTLETT, M.D.

**THE BISMUTH TREATMENT OF SYPHILIS.**—It seems possible that the treatment of syphilis by salts of bismuth may prove effective. In 1916 Santon and Robert (*Annales de l'Institut Pasteur*, 1916, xxx, 261), showed that bismuth had a preventive, and up to a certain point a curative action on the spirillosis of poultry and also on trypanosomiasis. In May, 1921, Sazerac and Levaditi (*C. R. de l'Acad. des Sciences*, 1921, clxxii, 1391) reported the results of their treatment by the tartrobismuthate of potassium and sodium of experimentally produced syphilis in rabbits, the spirochaetes being supplied by a dermatropic virus from a case of primary syphilis in man, passed several times through rabbits, and also by a virus from a general paralysis; they also used a virus of the spontaneous spirillosis of the rabbit. When the lesions of the experimentally induced syphilis were fully developed and contained numerous spirochaetes they were treated by hypodermic or intramuscular injections of the bismuth salt. An undoubtedly curative therapeutic action was manifested, they state, not only on the experimental syphilis of the rabbit, (the dermatropic and the neurotropic virus), but also on the spontaneous spirillosis (*Spirochaeta cuniculi*). The curative effects on the trypanosomiasis of nagana were less powerful. In syphilis the spirochaetes disappeared in two to four days, and in one case there was no relapse after four months. In August, 1921, Sazerac and Levaditi reported (*C. R. de l'Acad. des Sciences*, 1921, clxxiii, 338) further studies on the treatment of five human cases of primary, secondary, and tertiary syphilis by bismuth salts. There was rapid disappearance of the treponemata of open lesions and cicatrization of the latter within a few days; the treatment was successful on primary and secondary syphilitic adenopathies and also on tertiary syphilis. In one case, treated from the onset, the Wassermann reaction, which was positive, became negative and remained so for the two months of the treatment. In the other cases it remained positive. In one there was stomatitis, readily cured by methylene blue, and in another the gums were affected. The writers used intramuscular injections of the bismuth salt suspended in oil, and they advise avoidance of hypodermic and intravenous injections in the treatment of human syphilis. The number of injections varied from six to ten; the total dose during the treatment varied from 1 to 1½ grams. Four other physicians reported to Sazerac and Levaditi their favorable results by this treatment in man. In October, 1921, A. Marie and Fourcade (*Soc. de Med. de Paris*, October 22nd, 1921) obtained good results by the tartro-bismuthate of potassium in ten cases of neurotic syphilis; cases of diffuse syphilitic lesions were more rebellious. In October, 1921, Fournier and Guenot (*C. R. de l'Acad. des Sciences*, 1921, clxxiii, 674) reported their experience of the treatment of 110 cases of human syphilis at various stages by the tartro-bismuthate of potassium and sodium in oily suspension. They confirm the findings of Sazerac and Levaditi. The

action on the chancre is that the treponemata disappear sometimes after the first injection, generally after the second. Small chancres cicatrize in six or seven days, large ones in twenty. The adenopathy was lessened, the treponemata disappeared from those syphilitic lymph nodes which were examined, and clinically the course of the disease seemed to be checked; no cases showed any secondary signs. Action on secondary syphilis, they state, is that the treponemata disappear on the surface and in the depth of the lesions; eroding lesions dry up and cicatrize extraordinarily quickly, but papular and hypertrophic lesions rather more slowly. A case of palmar syphilis recovered in fifteen days. General symptoms, such as headache, lassitude, and bone pains, disappeared after the first injection. In five patients who had resisted all treatment (even as many as 700 arsenical or mercurial injections in four years), all the syphilitic lesions vanished after three or four injections of the tartro-bismuthate; but after three months the syphilitic manifestations recurred to some extent. In a case of acute syphilitic meningitis all the symptoms, including the lymphocytosis of the cerebro-spinal fluid, disappeared after three or four injections. In this case bismuth was recovered from the spinal fluid. The action on tertiary syphilis is that bismuth is very efficacious in all sorts of lesions—gummata, osteoperiostitis, and large scabby ulcers of abdomen and thorax. In one case of lingual leucoplasia the lesion diminished considerably without entirely disappearing. The effect on the Wassermann reaction was that in 6 out of 20 cases treated for more than three months the reaction became completely negative. Further study, however, is needed on this head to judge of the depth of the action of bismuth in syphilis. The first results, however, have been very satisfactory. The intramuscular injections of the tartro-bismuthate are given every other day, at the beginning of the treatment, in a dose of 0.20 gram, or every three days in a dose of 0.30 gram. Later the interval is slightly lengthened, especially if stomatitis appears. The total dose given during the first series of injections should reach 2 to 2½ grams in the three or four weeks. The injections are well borne; the only trouble (rather frequent) is a stomatitis, but it is much milder than mercurial stomatitis. It can be prevented by care of the gums and teeth, and by local application of the bismuth salt, methylene blue, or arsenical compounds. The writers recovered bismuth from the blood, urine, saliva, bile, and faeces; sometimes there was slight polyuria and albuminuria. Their general conclusion is that bismuth must be regarded as an energetic antisyphilitic agent. Prolonged and numerous observations are, however, needed to show whether it can definitely cure syphilis. Not only has it a rapid and a lasting effect on all sorts of syphilitic lesions, but it has great value from a social point of view, for it acts on the contagiousness of syphilitic lesions. The researches of Sazerac and Levaditi may possibly thus prove to have found a new therapeutic weapon against syphilis; certain bismuth derivatives tried by these writers were found to be much more toxic than the tartro-bismuthate salts.—*British Medical Journal*, January 21, 1922.

(We read the above in the Epitome Department of the British Medical Journal with more than ordinary interest. For many years it has happened to us that cases of visceral syphilis which had been intractable under ordinary antisyphilitic measures had shown wonderful improvement following the administration of bismuth, prescribed on a symptomatic basis. We

did not, however, suspect that the bismuth could have an antisiphilitic action, rather we attributed its beneficial effect to its general effect on the patient's constitutional condition. In quite a number of instances we have felt satisfied in permitting so-called antisiphilitic treatment to go, and have prescribed on indication, bismuth subgallate. We feel, therefore, that the information obtained in the above abstract is worthy of serious thought. We do not advise its teachings be accepted dogmatically.)—C. B.

#### DERMATOLOGY.

Conducted by RALPH BERNSTEIN, M.D., F.A.C.P.

**SWEAT-BAND DERMATITIS.**—Several cases of various forms of dermatitis were reported in Germany during the war and afterward. The condition was caused by sweat-bands of artificial leather used in hats. Similar cases, although rare, have also occurred in Denmark. The diagnosis of this dermatitis is not always easy. Sometimes a red, infiltrated stripe, from 1 to 2 cm. wide, is found on the forehead of the patient; in such cases the diagnosis is easy. In other cases the entire face of the patient and the hair line on the head are affected with numerous reddish, purulent, large infiltrated spots. In such instances it is difficult to observe the primary stripe on the forehead of the patient, and the diagnosis is therefore obscure. Conjunctivitis and even cough may also occur in association with the condition. The patient very often denies that the disease began on the forehead, as his attention has been directed to the erythematous vesicular spots around the eyes and mouth.

It is believed that the affection occurs only in individuals with a special idiosyncrasy, a theory apparently proved by the fact that the disease is rare. In some cases the dermatitis appears as early as the first day on which the patient wears a hat with an artificial sweat-band. In very severe cases the face of the patient is swollen, and chemosis and erythema occur on various parts of the body and extremities. Such cases are difficult to cure. The mild cases may be cured by smearing the affected parts with unguentum or linimentum refrigerans, and powdering. It is essential that the patient discontinue the use of the hat with the irritating band.

German authors have reported that the dermatitis is caused by the artificial glaze with which the sweat-band is covered. The glaze is prepared from phenol, alkali, acids, casein, etc. The phenol is absorbed by the sweat and produces dermatitis. One of the German authors has reported that the sweat bands smell of carbolic acid, but according to the author, Pontoppidan, he has never noted such odor.—*Ugeskr. f. Læger, Copenhagen.*

**A CASE OF DERMATITIS DUE TO A SWEAT-BAND.**—O. Jersild, of Copenhagen, reports the case of a boy, aged 18 years, who was suffering from a very severe dermatitis of the face, scalp and neck. The condition had appeared six weeks prior to his appearance at the hospital. Twice during that time the dermatitis had almost disappeared, but a recurrence followed. The patient stated that he had frequently gone without a hat during the summer, and that, when he did not use his new straw hat for several days, the condition on his face always improved somewhat. On arrival at the hospital his face, especially the forehead, was red, glossy, and looked as if

it had been varnished. The skin of the cheeks, ears, upper lip and jaw were purulent and covered with a crust. Only those parts of the scalp were affected which had been in contact with the sweat-band of the hat. The dermatitis of the face was associated with conjunctivitis of both eyes. After an intensive treatment lasting for seven weeks, the infiltration disappeared and the patient was discharged, only to return on the following day. It was discovered that on his way home he had worn the same straw hat with the sweat-band of artificial leather, and within a few hours a very severe dermatitis had appeared on his forehead and had spread quickly to other parts of the face and neck. On his forehead there was a stripe, about 1.5 cm wide, which extended to the scalp completely encircling his head. Very severe conjunctivitis had also occurred during the few hours the boy was away from the hospital. The condition was most marked on the parts of the head against which the pressure of the band had been greatest. The hat was sent to be examined, and it was reported afterward that the varnish with which the sweat band had been covered contained phenol (cresol) and formaldehyd as a condensation product. The dermatitis was again very resistant to treatment and the patient was still in the hospital two months later.—*Ugeskr. f. Læger, Copenhagen.*

**A CASE OF DERMATITIS DUE TO A SWEAT-BAND.**—A. Bronnum describes a case of sweat-band dermatitis, a disease which seems to have been very frequent in Denmark during the summer of 1921. The patient was a man who had had dermatitis on the forehead fourteen days prior to his arrival at the hospital. He was treated with tumenol zinc paste, with the result that the disease spread all over his face and became more intensive. An edema with purulent fluid covered his face, neck and even his fingers; his eyes were closed, and a conjunctivitis developed. The temperature rose to 38.9° C.; albumin, hyalin, leukocytes and red blood corpuscles were found in the urine. After two weeks the patient was cured and he returned home, wearing the same straw hat with the same sweat-band of artificial leather, which had originally caused the dermatitis. The resulting recurrence of the condition was very hard to cure. After four months' treatment the patient still had purulent and itching infiltrates on his forehead.—*Ugeskr. f. Læger, Copenhagen.*

**SUBOCCIPITAL POTT'S DISEASE.**—Richards states that the dorsal region is the most common location for tuberculosis to affect the spine, but there have been some cases reported where the first and second cervicle vertebrae showed signs of the infection. As tuberculosis affects the spongy portion of the bone, when the atlas is affected, the disease will be in the lateral masses, and when the axis is affected, the lesion will be found in the body or odontoid process. When these two bones are affected, there is usually severe pain high up in the neck and in the occipital region and made worse on motion. When there is crushing of the cancellous portion of the bone, motion will be limited and the head fixed as in torticollis. When pus forms it burrows through the soft parts. In examining this portion of the spine there are three positions of value. The first is through the open mouth which will show the axis and a portion of the atlas. The second position is to show the atlas through the nasal cavities and the axillary sinuses. The third position gives the lateral view. The appearance when tuberculosis is present will be a loss of detail in the bone structure and a crushing of the cancellous bone.—*Am. J. of Roentg., Nov., 1921.*

## SURGERY.

Conducted by J. D. ELLIOTT.

**SUBDIAPHRAGMATIC ABSCESS.**—After a general review of this subject Lockwood describes the technique of an operation which he has been using during the last five years. In it the diaphragm is sutured to the pleura and intercostal muscles by one row of sutures and to the skin edges by a second, in this manner the intermuscular and fascial planes are completely shut off from the pus.

The author states that a subdiaphragmatic abscess is always a grave condition, with a high mortality rate and a long, tedious convalescence accompanied by serious complications, often leading to invalidism. The sequelae are due to the failure of early diagnosis and prompt and complete treatment. Gravity accounts for subphrenic infection in a soiled abdomen and every effort should be made to keep this area clean during upper abdominal operations. Such an abscess should be suspected in all patients who, following an abdominal operation, maintain an elevation of temperature and pulse for no obvious reason. X-rays should be employed as an early diagnostic aid, but needling for diagnostic purposes is a dangerous practice and should only be used to rule out pleural effusions. The needle should not be passed through the diaphragm until the patient is on the operating table and, if pus is found, should be left in position and the operation proceeded with immediately. Paravertebral anesthesia allows more deliberate and protracted operations with minimum risk than does general anesthesia. Wide exposure of the abscess area and efficient drainage are essential.—*Surg. Gyn. and Obstet.*, November, 1921.

**FURTHER OBSERVATIONS ON THE BLOOD-SUGAR TOLERANCE TEST AS AN AID IN THE DIAGNOSIS OF GASTRO-INTESTINAL CANCER.**—Friedenwald and Grove believe there is present in carcinoma of the gastro-intestinal tract a rather characteristic curve of sugar tolerance which differs somewhat from that observed in carcinoma of other regions of the body. The curve of this affection usually presents a high sugar content even in the fasting state, followed by an initial rise up to 0.23 per cent. or higher within forty-five minutes after the ingestion of the dextrose, remains at this level for at least two hours and rarely at any time during this period falls below 0.2 per cent. From continued study of the blood-sugar tolerance test in malignant as well as in benign diseases of the gastro-intestinal tract, the authors are fully convinced that this test may be utilized to great advantage as a means of differentiating between these affections, and that, while it cannot in any way be considered specific for carcinoma, when taken into consideration with the other clinical evidence it may serve as a valuable aid in diagnosis in obscure cases of carcinoma of the gastro-intestinal tract.—*Amer. Journ. of the Med. Sciences*, January 1, 1922.

**THE RESULTS OF HIGH LIGATION OF THE CYSTIC DUCT IN CHOLECYSTECTOMY.**—Hartman, Smyth and Wood removed the gallbladder with high ligation of the cystic duct in a series of ten dogs and have studied the effects upon the biliary apparatus at postmortems in six to fourteen weeks after operation. They found that where a cystic duct stump was left, it usually dilated to form a pseudo gall-bladder; hence one may get a re-

currence of the symptoms after a cholecystectomy. Where the cystic duct was ligated flush with the common duct, there was general dilation of all ducts, indicating that there was pressure in the biliary system. The gall-bladder is not essential to life, but it seems to have a very definite function of storing bile and acting as a tension bulb to regulate pressure in the biliary system. Nature endeavors to restore the normal condition in the biliary system, after the removal of the gall-bladder by the ducts, including the cystic duct stump, undergoing a dilation and enlarging. It is an indication that nature rebels against man's attempt to improve on her, hence the gall-bladder must have some definite function.—*Annals of Surgery*, February, 1922.

**TREATMENT OF FRACTURES OF THE METACARPALS AND PHALANGES OF THE FINGERS.**—Wheeler suggests the use of extension in fractures of the metacarpals and phalanges with overriding. He applies this by a cast of the forearm, extending from the wrist to within two inches of the fold of the elbow, in which is incorporated a wire loop which extends two to three inches beyond the ends of the fingers. A loop of gauze is attached to each of the fingers requiring extension and the extension is obtained by passing rubber tubing through the gauze loop and fastening it over the wire loop. Counter-extension is made against the cast which should be padded lightly to prevent slipping. Too much strain should not be used, otherwise blistering of the skin with subsequent loosening of the gauze loop will occur.—*The Journal of the Amer. Med. Ass'n.*, February 11, 1922.

**TUBERCULOUS EMPYEMA.**—McKinnie has observed twenty-eight cases of tuberculous empyema with mixed infection. Eight of these were treated by aspiration and twenty by open drainage. He has treated all of the aspiration cases, but did not see many of the open drainage cases until operation had been performed. Only those cases in which there was persistent bronchial fistula were opened. Of the patients treated by open drainage, nine are dead, only one being considered as at all well. This was a patient treated by trochar and catheter, and he is at work and doing well. All of the others must be classed as more or less chronic invalids. Of the eight patients treated by aspiration, one is dead. All the others are working and in good health.

The author emphasizes that open drainage in tuberculous empyema is an unsatisfactory and often a disastrous procedure when the end-results are considered. The presence of other organisms in the pleural pus besides the tubercle bacillus—mixed infections—can be successfully treated by aspiration and replacement by air, which is contrary to the usual teaching. The tuberculous base of empyema is often overlooked.—*Journal Amer. Med. Ass'n.*, February 11, 1922.

**ACUTE SUPPURATIVE APPENDICITIS (GANGRENE OF THE APPENDIX) EXPERIMENTALLY PRODUCED.**—From a number of experiments on rabbits, Behan noted that the only time acute inflammatory reactive changes in the appendix occurred was when the lumen of the appendix was entirely obstructed, with strangulation of the mucous, the submucous layer and the muscularis.

Obstruction to the lumen alone apparently resulted only in a collection of fluid between the mucosa and the muscularis in the submucous

space, so that a cyst of the appendix was formed. However, when the obstruction extended beyond the mucosa and included the submucosa and muscularis a very marked reactive inflammation resulted, and gangrene of the appendix with sepsis and death of the rabbit took place.

The presence of bacteria in the lumen of the appendix is not, in the rabbit, a necessary prelude to inflammation. Gangrene of the appendix may occur even when previous cultures from the lumen of the appendix showed no bacterial growth; however, when inflammation had already taken place and the surface of the appendix was inflamed, cultures from the surface of the appendix gave growths of colon bacilli. This inflammation in these experiments apparently did not primarily result from thrombotic changes in the blood vessels of the meso-appendix. The blood vessels of the meso-appendix may be partially blocked and no pathologic change occur in the appendix. The pathologic variations or change evidently took place both in the lumen and in the coats of the appendix and led to deadly inflammatory reaction in the walls of the appendix. This reaction was always distal to the obstruction which had been erected.

How closely the above processes may simulate those which occur in the human is problematical. The appendix of the rabbit is longer, larger and has a slightly different arrangement of blood supply than has the human appendix. However, clinical observation seems to confirm, at least to a degree, that the above observations may also be applied to man.

Obstruction of the appendix may result clinically when a foreign body is present in the appendix and obstructs the lumen at some point where there has been a constriction. Gradual swelling of the mucosa may be sufficient to produce a strangulation of the submucosa and the muscularis layers the same as occurs when a ligature or clamp is applied. When this stage is reached gangrene supervenes.—*Am. Jour. Med. Sciences*, November, 1921.

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#### PEDIATRICS.

Conducted by C. S. RAUE, M.D.

**THE CURE OF INFANTILE RICKETS BY SUNLIGHT.**—Hess and Gutman state that sunlight not only brings about a clinical cure of the characteristic lesions of rachitis but also causes an increase in the inorganic phosphate of the blood as does cod liver oil. The infants are placed in the direct sunlight for from one-half to several hours, the period varying according to the sun's intensity, the clemency of the weather, and the sensitiveness of the baby. It is necessary that the sunlight be direct, and not transmitted through clothing or through the window glass; otherwise it loses the greater part of its curative potency, as the result of filtering out the effective rays. Such treatment cannot be carried out in a routine manner, but must be varied according to the condition of the babies, some of whom are far more sensitive to sunlight than others. At all times, care must be taken that the infants are warm. It is quite sufficient to expose the arms and legs, although it is preferable, when the temperature permits, to expose the trunk as well.—(*Journal of the American Medical Association*, January 7, 1922.)



**THE SERUM PROPHYLAXIS OF MEASLES.**—McNeal presents a series of cases, the children of which were injected with the serum from patients recovering from measles. The donors were bled after an interval of five, seven, or nine days from the disappearance of the fever. After varying periods following exposure, the recipients were given 5 c.c. of the serum. The author believes his results are convincing evidence of the efficacy of this method of protection against measles. He suggests that the immunity does not exist longer than sixty days in some cases. The method recommends itself most highly during the period of danger, between the ages of 5 months and 6 years, in tuberculous children and in those physically below normal. In institutions in which large numbers of frail children are intimately associated, the procedure would be of great value.—(*Journal of the American Medical Association*, February 4, 1922.)

**POWDERED PROTEIN-MILK AS A PROPHYLACTIC FOOD FOR YOUNG INFANTS.**—Sauer has been using powdered protein-milk for a number of years very successfully as a food for premature, under-weight and new-born infants. He uses it to supplement poor or insufficient breast milk or as an exclusive diet in these cases. The results obtained are excellent; vomiting, gas, colic and diarrhea, so common in young breast fed infants, are rare, as the tolerance of these very young infants for protein-milk is very great. When the infant's weight reaches 10 pounds, usually 2 or more feedings of an ordinary cow's milk mixture are substituted for an equal number of powdered protein-milk feedings. This transition period usually covers a week. Then the entire complemental food is made up of a suitable cow's milk formula. Normal infants of 10 pounds, thriving on protein-milk, will usually do equally well on a rational mixture of cow's milk. Sauer uses a level packed tablespoonful of protein-milk for each pound of weight, sufficient carbohydrate (Dextri Maltose), being added to bring the total up to 4 or 5 per cent. Small infants often require a little more food, larger ones usually thriving on somewhat less.—(*Archives of Pediatrics*, January, 1922.)

**THE ETIOLOGY AND TREATMENT OF AMMONIA DERMATITIS OF THE GLUTEAL REGION OF INFANTS.**—J. V. Cooke, M.D. The common erythematous or papulo-vesicular dermatitis of the gluteal region in infants is caused by ammonia in the diaper and should be classed with other forms of dermatitis venenata. A similar dermatitis may occur in older children who have enuresis, and this, also, is associated with the presence of ammonia in the clothing or bedding wet with urine. In both infants and older children with this affection, a characteristic gram-positive bacillus has been isolated from the stools in every case examined. This organism is a saprophyte but has the property of fermenting urea with the production of ammonia. In a series of infants without ammonia formation in the diapers this organism can be found relatively infrequently; in older children, however, its occurrence is not unusual. The use of diapers impregnated with an antiseptic causes a prompt disappearance of the ammoniacal odor and a rapid regression of the skin lesions. The diapers are dipped in the solution, thoroughly wrung, and allowed to dry before using. The antiseptic solutions which have been used successfully by the writer are: Mercuric chloride (1:5000); Boric acid (1:20); Mercuric iodide

(1:5000). The evidence presented indicates that the "ammoniacal diaper" and the dermatitis that accompanies ammoniacal urines are dependent on bacterial fermentation of urea.—(*American Journal of Diseases of Children*, November, 1921.)

### ENDOCRINOLOGY.

Conducted by AUG. KOENDOERFER, M.D.

**VISUALIZING SCIENTIFIC DATA.**—The article presents the paragraph quoted here: "In modern therapeutics, fortunately, the 'horse-power' dosage of fifty years ago has been discredited. The era of modern medicine is characterized by a growing activity of the glands of internal secretion. Organotherapy still presents innumerable problems, but it can also point to unquestionable victories (Kendall & Timme). It is in connection with this new type of therapy, that the diminutive size of the body cells and the infinitesimal quantities with which the body works, and to which organs and tissues respond, are worth remembering."—*Endocrinology*, November, 1921, Luden, George.

**SOME CURRENT TRENDS IN ENDOCRINOLOGY.**—The author warns against over and under enthusiasm in this developing department of modern medicine; begs for great care on the part of both; warns as to the consequences to the profession, patients and the science. He concludes that endocrinology is one of the most difficult branches of biology. What is needed, he says, is more work, carefully planned and carried out, less shallow theorizing, and consistent but discriminating support of the medical profession.—R. G. Hoskins, *J. A. M. A.*, 77: 1459, 1921.

**BEARDED WOMEN AND ENDOCRINOPSYCHIATRY.**—From recent statistics it might be concluded that the percentage of bearded women was on the increase in insane asylums. These studies must be accepted with caution. The author draws attention to the fact that there are three classes of symptoms to be studied in these patients; the pilary, psychic, and somatic. From the standpoint of biology there are four types of abnormal hairy development: pilary nevi, fetal hypertrichosis (associated with absence of teeth) hypertrichosis due to local irritation, and systematized hypertrichosis of the masculine or sex type. Maniac depressive insanity is the most frequently met psychic disturbance among bearded women. During the depressive phase a homo-sexual aspect may appear and this is displaced by normal sexual instinct during the periods of excitation. This, the author claims, is easily understood when it is considered that both hirsutism and maniac depressive insanity are frequently associated with thyroid dysfunction.—M. Laignel-Lavastine, *Paris med.*, 11: 325, 1921.

**ADRENAL INSUFFICIENCY AND RECENT CRITICISM BY PHYSIOLOGISTS.**—It is claimed by some physiologists that adrenalin is not a secretory but an excretory substance. They claim that it is not present in the blood and that therefore there can be no such thing as hyper or hypo-adrenia. A new thought has been suggested, namely: that these conditions have their origin in a "trophic deviation" causing a disturbance of metabolism and perhaps a production of soluble proteins which in turn produce morbid conditions.—Emile Sergent, *Press. med.*, 29: 813, Paris, 1921.

## UROLOGY.

Conducted by LEON T. ASHCRAFT, M.D.

**NEW ASPECTS OF URINARY SURGERY.**—Pasteau reviews briefly the new aspects under which urinary surgery has presented itself in the last few years.

Among surgical affections of the urinary apparatus which have appeared to diminish progressively in frequency are certain grave forms of prostatic abscess in gonorrhea; gonorrhea and traumatic stricture, with the usual complications such as urinary abscesses and infiltration of urine; vesical calculi; rebellious cystitis and grave infections, and complications of the urinary apparatus in general.

Infection of the prostate is considered to be the rule by many surgeons, and massage of the prostate has become an important part in the treatment of posterior infections of the urethra. But abscesses proper are less and less encountered, and extensive abscesses are exceptional.

Strictures are still more rare, but certainly less frequent than formerly. Janet's lavage and a better understanding of gonorrhea and its treatment in general have brought this to pass. Secondary calculi of infection, phosphatic calculi, are much rarer now than formerly. Since we have been relieving the obstruction to urination by removal of the prostate, the bladder is more completely emptied so that there is no urine left in for the formation of deposits.

Better methods of diagnosis have made it possible to discriminate between operable cases, cases which demand operation, and inoperable cases.

The diseases which we treat have not changed in their relative importance, but our methods of operation have completely changed. We are daily increasing the number of dangerous operations undertaken; we prepare the patients much more carefully in advance to prevent shock; we perform operations daily which were considered very rare in former years, particularly nephrectomy and other kidney operations and bladder interventions, such as resection, total exsection, operations upon the prostate, adenomectomy for simple hypertrophy, prostatectomy for cancer.

Lithotrity has almost become a rare operation in consequence of the development of radical operations upon the hypertrophied prostate and the diminution of the number of vesical calculi formed.

Cystoscopy for benign tumors is becoming less frequent daily due to the use of electrical currents of high frequency applied by means of the cystoscope, and we personally add the application of radium cystoscopically, the procedure which we have followed for over two years.

The causes which have led to these profound changes are many:

1. The increasing growth in the perfection of our means of exploration.
2. Recognition of the means of resistance of the organism enables us to operate upon cases formerly considered inoperable.
3. More practical and less dangerous anesthesia and the employment of local anesthesia. This is of especial importance in urinary surgery.
4. Progressive improvement and simplification of instruments and operative technique. The surgery of to-morrow will doubtless afford many surprises. Vascular grafting or even grafting of organs is beginning to be practiced; X-ray used as a curative application; high frequency currents; vaccines and serums.

More than ever the surgeon must also be a laboratory man. The surgeon of to-morrow; as the surgeon of yesterday, will not be complete unless he is a scientific man, well informed, and an adroit operator and a clinician.—*Journal d'Urologie*.

**THE ETIOLOGY OF RENAL INFECTIONS, WITH SPECIAL REFERENCE TO URINARY STASIS IN INFECTIONS OF THE RENAL PELVIS.**—D. W. MacKenzie. A very important factor in the production of renal infections is interference with kidney drainage. This is receiving more and more consideration. If drainage is interfered with, as in kink of the ureter or sagging of the kidney, the stagnant urine affords the organisms an opportunity to multiply and grow and distention of the kidney pelvis renders the kidney tissues less resistant to infection.

Of the common mechanical predisposing causes in colon bacillus infections, of the kidney we find some of them (such as peritoneal adhesions, tumor of the pelvic organs and bowel, and pregnancy) outside the ureter, and some (such as stone, tumor and blood clot), within the ureteral wall. Among other predisposing factors the author mentions infectious diarrhea in infants, atrophy of the vagina in the pyelitis of elderly women, kidney displacement, etc.

Coccus infections of the kidney are often preceded by infection in remote parts of the body.

The author discusses the subject of colon bacillus infection in detail, especially as regards the role played by the predisposing factors mentioned, and urges thorough urological study of all cases of renal infection. Personally, we frequently find as a cause, focal infection in the tonsil.—*Canadian Medical Association Journal*, 1921, xi, 714.

#### PATHOLOGY.

Conducted by JOHN G. WURTZ, M.D.

**EXPERIMENTAL GENERALIZED ANALGESIA AFTER EXPOSURE TO SOME WAR GASES.**—During a series of investigations taken up at the instance of the Surgeon General of the Army, it was noticed that two gases reduced pain perception to a low level. Following up this observation Auer (*Jour. Exper. Med.*, February, 1922.) experimented with cats and sums up his work as follows: "Cats gassed with dimethylsulfate or chloropicrin in such concentration that death generally results within 4 days, usually exhibit a marked generalized analgesia, both superficial and deep. Gassed cats react with no obvious sign of pain to operative interferences, including laparotomy and gentle friction of the parietal peritoneum. The analgesia develops within a few hours after gassing, and reaches its maximum in about 24 hours. With dimethylsulfate the analgesia may persist for six months; with chloropicrin practically normal sensitiveness has been observed 7 days after gassing. This analgesia is considered to be caused and maintained largely by a general, low grade, tissue asphyxia which is chiefly of pulmonic origin."

**THE ERYTHROPOIETIC ACTION OF GERMANIUM DIOXIDE.**—Hammet, Nowrey and Muller, (*Jour. Exper. Med.*, February, 1922.) experimented with albino rats and found that various amounts of a solution of germanium dioxide caused a marked increase in the number of red blood corpuscles.

There was an apparent tendency for the degree of effect to be related to the initial erythrocyte number, in that with a lower initial count there seemed to take place a greater rise, and vice versa. They found no indications that the larger doses of germanium dioxide exerted a greater stimulating effect on the production of the resultant erythrocythemia than the smaller doses. The increase was apparent within a week. A tendency for the solution to increase the coagulability of the blood was also noted. Color changes in the liver and bone marrow were found at autopsy.

**SOME HUMAN DIGESTION EXPERIMENTS WITH RAW WHITE OF EGG.**—Rose and MacLeod, (*Jour. Bio. Chem.*, January, 1922) found that raw whites of eggs, in as large amounts as ten to twelve whites daily, are well utilized in the human subject. The absorption varies with the method of preparation, being less for raw egg whites taken in their natural state than when beaten light. A mixture of whites beaten and partly unbeaten gave an intermediate value.

**CURVE OF SUGAR EXCRETION IN SEVERE DIABETES.**—Felsher, (*Jour. Bio. Chem.*, January, 1922.) studied the elimination curves of glucose in severe diabetes and made observations which harmonize with the well known conception of a "tolerance limit" for glucose; and that an "abnormal" sugar excretion may develop with critical suddenness when this limit is overstepped. Diabetics, when brought into the non-diabetic status by fasting or suitable adjustment of the diet, may then excrete small quantities of sugar not greater than those excreted by normal individuals. As the diet is gradually increased there is at first little or no permanent increase of the sugar excretion. Should an increase occur there is a fall to normal level. When the limit of this tolerance is reached there may be no further adjustment and a sudden acceleration of the sugar excretion, out of all proportion to any which have occurred before, be found. This rapid upward bend in the curve of sugar excretion shows a true critical break.

#### ROENTGENOLOGY.

Conducted by WALTER C. BARKER, M.D.

**PNEUMOPERITONEUM AS AN AID IN THE ROENTGENOLOGIC DIAGNOSIS OF LESIONS OF THE URINARY TRACT.**—Sante has made a hundred and ten examinations with no untoward effects and thinks the method safe. For description, he has divided his cases into three groups.

The first group is for the information as to the presence or absence of the kidney, its position, size, outline, mobility and attachments. The shadow of the kidney may be easily separated from that of the liver or spleen. Polycystic kidney and tumor may be recognized and the mobility of the kidney easily determined. It has been found that any variation in the size of the two kidneys is pathological. Adhesions and contiguous structures are noted.

In the second group, the differentiation of the presence of abdominal masses from the kidney, is considered; also tumors of the liver, enlargement of the gall bladder, inflammatory masses resulting from appendicitis, cysts or carcinoma of the head of the pancreas, fibroids of the uterus, displacements of the spleen and carcinoma of the colon. By placing the patient

in the retroperitoneal position, which is that with the patient prone and the hips and chest supported, so that the abdomen is free from pressure, retroperitoneal growths may be observed; also tumor of the kidney and perinephritic abscess.

In the third group, are considered diseases and conditions affecting the renal tract, such as calculi that cannot be definitely located by means of pyelography. In some cases, the combined method of pyelography and pneumoperitoneal Roentgenography, is of value. Tumors and diverticuli of the urinary bladder may be observed, and adhesions of the bladder to contiguous organs, may be studied. For this purpose, both the bladder and the peritoneum may be injected with air.

In doing this we may use either a combination of oxygen and carbon dioxide, or pump air into the peritoneal cavity with a Potain pump.

The technic is to evacuate the bowels and urinary bladder and give  $1/6$  of a grain of morphia. Paint the lower left quadrant of the abdomen with iodine tincture and then introduce a lumbar puncture needle slightly upward and inward. The Potain pump is connected by rubber tubing to the needle, and a metal drip is connected between the pump and the needle, to act as a trap and prevent foreign material from the pump entering the abdomen. Everything is sterilized except the pump and the air. No accidents have occurred, except in one case in which the needle was introduced into a small artery. It was withdrawn and the patient kept in bed for two days, after which the examination was completed with no ill effects.

This method of examination has been used in patients with diabetes, mild heart lesions when compensation is complete, and in cases of tubercular peritonitis. Also in cases with abdominal adhesions due to tuberculosis, postoperative conditions and in carcinomata. The lowest systolic pressure was 80, and the highest, 180. One patient had thoracic aneurism, and another abdominal aneurism.

Theoretically, it is better not to use this method in advanced cases of nephritis with oedema, heart lesions with decompensation, and in acute abdominal or acute thoracic diseases.—*Journ. of the Amer. Med. Assoc'n.*, Sept. 24, 1921.

**OSTEITIS DEFORMANS.**—The author quotes the description of James Paget, given in 1876, of osteitis deformans. Paget states that the disease begins in the middle life, progresses slowly without influencing the general health and is characterized by a change in size, shape and direction of the long bones and an increase in size and thickness of the skull. The mind remains unaffected.

There is a loss in height indicated by the low position of the hands when the arms are hanging at the side. The shoulders are stooped, the head is enlarged and hangs forward, the chest is bent upon the pelvis, the limbs are curved and held apart, the leg bones are bowed over the ankles and the toes turned outward. Paget thinks this disease is not associated with syphilis.

Some French observers contend that Paget's disease is a late manifestation of hereditary syphilis, but most clinicians consider that the x-ray findings disprove syphilis as an etiological factor.

Bartlett reports a case of osteitis deformans that had chromophil cells of the anterior part of the pituitary gland and Higbee and Ellis report one with definite disturbances of the parathyroids.

The authors believe that the endocrines may be an etiological factor in this disease, as the pituitary gland has an influence over bone metabolism and the parathyroids over calcium metabolism.

The differential diagnosis consists in distinguishing osteitis deformans from osteomalacia, carcinomatosis and luetic periostitis. This may best be determined by the x-ray findings.

A case is presented with complete clinical findings. George F. Raynor, M.D. and George King, M.D., New York City.—*J. of Am. Institute of Homoeopathy*, July 1921.

**X-RAY TREATMENT OF TOXIC GOITER.**—This article includes a complete description of the groups of cases, method of examination, and technic of treatment as used by Allison, Beard and McKinley. The factors for the Roentgentherapy are, 30 to 34 milliamperes-minutes, with a spark gap of 8 inches between points, a target distance of 8 inches, and 4 mm. of aluminum filter. Three portals of entry are used, one being on each side of the thyroid gland and the other over the thymus gland. The summary of the results is as follows: Of twenty-seven cases of Grave's disease without complication, twenty-four are free of clinical and laboratory signs. The other three cases of this group were operated. Of six cases of the postoperative group with recurrent hyperthyroidism, only one responded to the Roentgen-ray therapy. Three cases with thyrotoxic adenoma, failed to respond to Roentgentherapy. There were no bad effects or complications resulting from the Roentgentherapy, while one of the three cases operated on, died during the operation.—*Amer. J. of Roentg.*, Nov., 1921.

**SOME OBSERVATIONS ON THE TREATMENT OF HYPERTHYROIDISM WITH THE X-RAY.**—Holmes reports 107 cases of hyperthyroidism treated by the Roentgen ray since 1919 in the Massachusetts General Hospital, at which place a goiter Commission has been appointed from the staff, consisting of an internist, surgeon and Roentgenologist.

In all cases a metabolism test is made before and after the x-ray treatments, and examinations for sources of focal infection are made, and when found, are corrected. The pelvic organs are examined in women and particular attention is paid to the occupation and home life of the patients. The cases of goiter in which x-ray therapy is advised are those of toxic adenomata and exophthalmic goiters.

The toxic adenomata respond very promptly to the x-ray. The exophthalmic cases are advised to rest in bed and have Roentgen ray therapy until their condition improves and later, if necessary, advised to have surgery.—*Am. J. of Roentg.*, Dec., 1921.

**A MODIFICATION OF TECHNIQUE FOR ROENTGENOGRAPHING UPPER MOLARS.**—All projections of the teeth are made in accordance with a well known law which is, that the angle of incidence of the central ray shall be a right angle to a plane which bisects the angle formed between the long axis of the tooth and that of the film.

In the case of the upper molars, the central ray projects the zygomatic process and a portion of the floor of the antrum over the shadows of the molars. To overcome this, LeMaster attaches a small roll of absorbent lint to the lower end of the film, placing it against the gum and thus changing the plane of the film so that the central ray is projected below the zygoma and floor of antrum, giving a clearer view of the root of the upper molar.—*Am. J. of Roentg.*, Nov., 1921.

# THE HAHNEMANNIAN MONTHLY.

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APRIL, 1922

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## THE SCHICK TEST AND TOXIN-ANTITOXIN IMMUNIZATION AGAINST DIPHThERIA

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October 12, 1921.)

THE Schick test is an intradermal test used to determine whether or not an individual has an antitoxic immunity against diphtheria. For the test diphtheria toxin is used, diluted with normal saline solution so that 0.2 c.c. of the dilution will represent one fiftieth of the M. L. D. for a 250 gram guinea pig. The concentrated toxin is fairly stable if kept at ice box temperature, but it deteriorates rapidly in the dilution used for injection, so that the diluted toxin should be discarded for fresh after a few hours, never keeping so long as over night. Outfits are now on the market which are sufficient for from ten to sixty tests.

For the injection itself I use a 1 or 2 c.c. Record syringe and a 27 gauge, 3/16ths inch steel needle, with not too sharp a point. After cleansing the skin with alcohol, the needle is inserted with the eye upward just far enough to bury the eye, and so superficially that the eye opening may be seen through the covering of skin as a dark spot. With the needle so inserted 0.2 c.c. of the diluted toxin is injected. If the needle is properly inserted the injection will raise a distinctly circumscribed wheal, blanched in color and pitted where the hair follicles and sebaceous glands bind down the superficial skin.



Two tenths of a c.c. produce a wheal about three eighths of an inch in diameter. This wheal disappears in a few minutes.

The reactions which follow the test injection depend upon whether or not the individual has sufficient antitoxin in his body fluids to neutralize the toxin, and also whether there is any susceptibility to the proteins contained in the material. The test is essentially a titration of the antitoxin content of the blood serum. The amount of toxin used for the test has been determined by experiment to be of such amount as will be neutralized if there is present a sufficient amount of antitoxin to protect against diphtheria infection, and to be more than will be neutralized if the antitoxin is insufficient to protect.

If there is little or no antitoxin present there will appear within a day, or a few days, a reddening of the skin with induration at the site of the injection. This red spot is about the size of a nickel or a quarter. The redness persists for a number of days, gradually fading with the development of pigment and desquamation. The pigmentation gradually disappears, sometimes being visible for two or three months after a strong reaction. From strong, very red, positive reactions, which occasionally show small vesicles, indicating the almost entire absence of antitoxin, there are reactions of all degrees, to the mild positive with its faint pinkness, scant induration and small in size, indicating the presence of antitoxin but in insufficient amount to afford protection against diphtheria.

Some individuals will give a reaction to the protein in the test material. These are the so-called pseudo reactions, and are less distinctly circumscribed, usually considerably larger and are more bluish in color. They appear within a few hours and disappear within a few days, seldom showing more than a faint pigmentation after the third or fourth day. The pseudo and true positive reaction may appear together in the same individual, and in such cases the interpretation of the nature of the reaction is complicated. Also the pseudo reactions are not so nearly uniform as the true reactions, so there is at times difficulty in deciding whether the reaction present is a true positive or a pseudo reaction.

About 90 per cent. of the difficulties experienced in interpreting the reactions, however, is done away with by the simple procedure of using a control test. It is generally the

practice to give the test on the flexor surface of the right forearm, about three inches below the bend of the elbow, and the control test at the corresponding site on the left forearm. The control test is performed in the same manner as the true test and the material used is identical, excepting that the toxin before dilution has been heated to 75 degrees Centigrade for ten minutes, which destroys the toxin which causes the true reaction, but does not change the proteins which give rise to the pseudo reaction. It will be seen that with the test and control on opposite arms they may be viewed together and compared. If there is no pseudo reaction, the left arm will be clear. If there is neither a pseudo nor a positive reaction, both arms will be clear. If there is a true reaction without a pseudo, the right arm alone will show a reaction. If there is a pseudo reaction without a positive reaction, the two arms will show practically identical reactions. If there is a combined positive and pseudo reaction, the left arm will show the pseudo alone, and the right the pseudo intensified with the true positive reaction. It is in these last cases that the use of the control is of the greatest value. Comparison of the two arms, however, greatly simplifies the interpretation. Without the control on the left arm, there is at times considerable difficulty in deciding whether the reaction on the right is a pseudo alone or a combined pseudo and positive reaction.

The assistance of the reaction or lack of reaction to the control is of such marked value in these combined and atypical cases that the test should not be employed without the control. The additional time and trouble entailed in giving the two injections is amply paid for when the time comes for interpreting the reactions. It has recently been my practice to defer reading the reactions until the elapse of one week, at which time the pseudo reactions have practically all disappeared, and it is then only the very exceptional case which requires more than a glance to determine whether or not there has been a positive reaction. Where single or but a few individuals are being tested and it is desired to complete the immunizing injections as promptly as possible, the reactions may be read on the second or third day, so long as it is borne in mind that those showing a negative Schick test at this time should be seen again at least five or six days after the test, as some positive reactions do not appear until the fifth day.

The Schick test has demonstrated some very interesting

things about immunity against diphtheria. It has shown that as many as 90 per cent. of infants may have an inherited immunity which protects them for about six months, at which time this inherited antitoxin disappears, and they become susceptible and give a positive Schick test. From six months to two years of age practically all infants are susceptible to diphtheria. As the child increases in age more and more of them develop an antitoxic immunity, so that as many as 85 per cent. may be immune when they become adults. This immunity, which becomes more general as age increases, is believed to be due to repeated exposures and mild infections with the diphtheria bacillus which have been successfully combated by natural processes, and to have stimulated the development of antitoxin.

Most of the early work with the Schick test was done in public institutions where the inmates came from the poor and more congested populations, and the percentage of immunes found among the different age groups were published. More recently the Schick test has been used in groups of a different character and these showed a widely different percentage of immunes from what had been experienced in institutions. These varying experiences have been simply a further demonstration that the so-called natural immunity to diphtheria is undoubtedly the result of repeated mild infections, as the people living in congested districts, where the opportunities for contact with many persons and the contraction of infection are greatest, showed a large percentage of immunes, while similar age groups living in rural communities, or under the secluded conditions of the more wealthy, showed a much smaller proportion of immunes. For instance, schools in New York City have been reported by Dr. Zingher as having as few as 16 per cent. of susceptibles, while a rural school in Cumberland County, New Jersey, showed 85 per cent. susceptible, and a school patronized by the wealthy showed 79 per cent.

The discovery of the Schick test led to prompt efforts to perfect a procedure by which those shown by the test to be susceptible might be given immunity, and a mixture of diphtheria toxin and antitoxin was found to be the agent which would accomplish this. Without this method of active immunization the Schick test would have remained of academic interest and useful only in indicating immunes among those

exposed to diphtheria infection, so that a saving of antitoxin might be made.

It is well known that diphtheria antitoxin, besides its curative use, will give immediate protection against diphtheria, but the antitoxin being of a foreign nature, is rapidly eliminated and its protection cannot be depended upon for more than two weeks. It was discovered that diphtheria toxin could be neutralized by the addition of antitoxin, so that the danger accompanying the administration of unneutralized toxin was overcome, yet the reaction following its administration was similar to that in the horse used to produce antitoxin. I believe that the fatality rate among horses used for the production of antitoxin has been decreased by the simple procedure of beginning their immunization with toxin-antitoxin mixture. When the slightly under neutralized toxin is injected into an individual the antitoxin is believed to gradually disappear with a slow liberation of toxin, which stimulates the production by the individual of his own antitoxin, which, not being of a foreign nature, is not eliminated as is the case with antitoxin produced in horses. So the administration of toxin-antitoxin results in the individual slowly and gradually increasing his antitoxin, so that a few months after the toxin-antitoxin is given his antitoxin is sufficient in amount to protect him against diphtheria, and this condition may be demonstrated by a Schick test.

Toxin-antitoxin is given subcutaneously, usually in the upper arm, in three doses of 1 c.c. each, with one week elapsing between the injections. I use an ordinary hypodermic needle of 25 gauge. The reactions following the administration of toxin-antitoxin vary in their intensity. In young children the reactions are scarcely or not at all noticeable. Children over 15 and adults are quite likely to experience discomfort following them. An individual giving a pseudo reaction to the Schick test usually experiences some reaction to the toxin-antitoxin. The reactions when experienced are either local or general or both, consisting of soreness and swelling of the arm where the injection was given, with an occasional induration of the axillary glands, and general symptoms of headache, general aching and a rise in temperature. Occasionally the general symptoms are sufficient to cause a day or so being spent in bed, but such cases are unusual. The local soreness is enough to keep the patient aware of it, but seldom sufficient to interfere with work

or play. Like typhoid vaccine, toxin-antitoxin is preferably given late in the afternoon, and followed by a light supper and early retiring. The reaction seldom lasts more than 24 hours, and as compared to the reactions following typhoid vaccine is much milder. No permanent ill effects have followed toxin-antitoxin administration since the Federal authorities took over supervision of its manufacture.

The immunity which follows toxin-antitoxin administration is slow in developing and enough to protect against the disease cannot be expected under a month after the third injection, and some individuals are slower in their formation of antitoxin, so that a negative Schick test will not be obtainable until six months or even a year have elapsed. But the majority show a negative or at least a milder Schick test than the original within two months. A single injection of one c.c. of toxin-antitoxin will produce immunity in about 60 per cent., two doses in about 70 per cent., and three in from 90 to 99 per cent. The results following two injections of one and one-half c.c. of toxin-antitoxin have not been so favorable as three of one c.c. each. Where a positive Schick test is obtained six months after toxin-antitoxin has been given, it is advisable to give one or two more doses of toxin-antitoxin. So that with a test following toxin-antitoxin administration and additional doses in certain cases, practically 100 per cent. of the population may be made immune to diphtheria. To determine whether or not protection has followed toxin-antitoxin administration a Schick test is necessary. The immunity development by the administration of toxin-antitoxin is believed to be permanent, it being very unusual for a person who once gave a negative Schick to subsequently give a positive.

The results obtained from a large number of Schick tests and extensive use of toxin-antitoxin have demonstrated some things regarding this method of combating diphtheria which are especially useful to the general practitioner. One of these is that infants under six months are largely immune because of inherited antitoxin, and the giving of toxin-antitoxin to these infants does not prevent their immunity from disappearing at about six months of age, so the test and toxin-antitoxin are now seldom used in children under six months old. If it should be desired to protect a child of this age the procedure would be, first, to give the test; if it is negative, then a retest should be made at six or eight months, and when the test be-

comes positive give the toxin-antitoxin. If the test is positive under six months then use the toxin-antitoxin at once, but check up the results obtained by retesting. Probably the most important feature of this work to the general practitioner is the fact that practically all children between six months and five years old are susceptible to diphtheria, and the reactions following toxin-antitoxin at this age are negligible or absent entirely. These facts make it a simple procedure to produce a population immune to diphtheria and the accomplishment of this is within the hands of the physicians, even without any special experience, as at this age the Schick test may be dispensed with and the toxin-antitoxin given practically indiscriminately. Children between five and fifteen years should be given the test before toxin-antitoxin, as more than 50 per cent. of some groups of children of this age are immune and do not need the toxin-antitoxin. Children over 15, and adults, should always receive the test before toxin-antitoxin as this group furnishes the most pseudo reactions and the more severe reactions to toxin-antitoxin. Where an adult shows a well marked pseudo, combined with a positive reaction, the giving of toxin-antitoxin may be left to the option of the individual after explanation that the toxin-antitoxin may cause quite a severe reaction.

One particular class of cases should be referred to. It is well known that those persons subject to horse asthma or anaphylactic reactions to biological products prepared from horses cannot be given ordinary antitoxin without a probably fatal result. If one of these individuals should suffer an attack of diphtheria, the use of antitoxin being contraindicated, unless an antitoxin prepared from some other animal than a horse is available, the chances for recovery are greatly impaired. The amount of horse serum present in the toxin-antitoxin mixture is so small, however, that it may be used in these individuals if they give a positive Schick test.

The technique which I have copied from Dr. Zingher is simple. I have used it in several thousand instances without infection and have employed it at the roadside. The dissembled syringe and needle are immersed in alcohol, and assembled, filled with alcohol and emptied. From a small bottle of sterile water I fill and empty the syringe a few times to wash out the alcohol. After cleaning the cork and neck of the bottle with alcohol, which is permitted to evaporate, the syringe is filled

through the needle. For the toxin-antitoxin the skin is touched with tincture of iodine. I have used the same syringe and needle for as many as 500 successive injections, simply wiping off the needle after each injection and before refilling of the syringe with a bit of alcohol saturated cotton.

In closing I want to make a plea for physicians to give toxin-antitoxin without resorting to a preliminary test to all children after they pass six months and before they reach two years of age, just as a generation ago all the babies were vaccinated against smallpox when about one month old. If physicians would but do this, diphtheria would become as rare as smallpox, and the death rate from this most fatal of the diseases of children would be reduced to a point still lower than antitoxin has brought it. We have found that the people are much more anxious for this preventive treatment than we had anticipated previous to our offering it to the public. Those physicians who have some official connection with a local board of health or board of education can do their communities a real good by advocating the Schick test and immunization with toxin-antitoxin of all the pupils in their schools.

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### **DON'TS IN THE MANAGEMENT OF A PATIENT IN LABOR**

BY

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(1) Don't fail to have your patient call you as soon as she thinks that labor has started.

(2) Don't forget to decide definitely whether she is having true or false labor.

(3) Don't forget that a woman is not in true labor until there are rhythmical pains and beginning obliteration of the cervical canal.

(4) Don't forget that the cervical canal may be obliterated in multiple pregnancy and polyhydramnios without pain.

(5) Don't forget to review your pre-natal record of the patient as to:

(a) General condition during pregnancy (heart, lungs, teeth, etc.)

(b) Bowels, urine (analysis), ocular symptoms, nervous symptoms and edema.

(c) Pelvimetry (external and internal).

*Internal—*

Diagonal Conj., 12.5 cm.

True Conjugate, 11 cm.

Interischial

Sagital, in selected cases.

*External—*

Interspinous, 26 cm.

Intercristal, 29 cm.

Intertrochanteric, 31 cm.

External Conjugate,

20.25 cm.

External Obliques, 22 cm.

(d) Condition of the external genitalia.

(e) Diagnosis of presentation and position, also position, condition and rate of the fetal heart.

(6) Don't forget that the true conjugate is estimated from the diagonal by subtracting 1.5 cm. in normal pelvis and 2 cm. in rachitic.

(7) Don't forget that the measurements of the pelvic inlet and outlet are:

*Inlet—*

Antero-posterior, 11 cm.

Transverse, 13 cm.

Oblique, 12 cm.

*Outlet—*

Anterior-posterior, 9 cm.

Transverse, 11 cm.

(8) Don't forget to be positive of the presentation, position, also the position and rate of the fetal heart.

(9) Don't forget the three stages of labor:

1st. From beginning dilatation of the cervix, to complete dilatation.

2nd. From complete dilatation of the cervix, to the expulsion of the child.

3rd. From the expulsion of the child to the expulsion of the placenta.

(10) Don't forget that the pains and the contractions of the first stage are short in duration (5-10 sec.), occur about every twenty minutes and resemble intestinal cramps; that they are first felt in the lumbar region and radiate to the lower abdomen and groins; that as time goes on they become longer in duration (1 min. at end of 1st stage), more frequent (every 2-3 min.) and far more severe.

(11) Don't forget that in the second stage, the pains are shorter in duration (10-30 sec.). Each complete contraction representing a group of shorter ones. The interval between the pains being longer than in the late first stage (5-10 min.).



(12) Don't fail to remember that the third stage pains are, as a rule, not severe, occur 10-15 or 20 minutes apart and may even be absent.

(13) Don't encourage a patient to "bear-down" until the cervix is completely dilated, because she usually does not have the desire and it only helps to fatigue her.

(14) Don't forget that the most severe pains are at the moment of complete cervical dilatation and when the head is passing the orifice of the vulva.

(15) Don't forget that a few particularly severe pains with a bright red sanguinous discharge usually indicates that the cervix is completely dilated and the head is passing through it.

(16) Don't forget that the bag of waters may rupture several days or a week or two before true labor sets in.

(17) Don't forget that a sudden desire for the bowels to move may mean that the head is on the floor of the pelvis and exerting pressure upon the rectum.

(18) Don't ever rupture the "bag of waters" until the cervix is completely dilated.

(19) Don't permit a patient to be out of bed after the end of the first stage of labor.

(20) Don't forget that when you accept a case in labor, you are responsible for two lives instead of one.

(21) Don't attempt to care for a woman in a private home without the following equipment: *Tincture of green soap, lysol, sterile gown and rubber gloves, nail brush and orangewood stick, ampoules of ergot and pituitrin, morphine sulphate, adrenalin chloride, ether or chloroform, silver nitrate (1 per cent. solu.), or tablets for preparing the solution, tablets for preparing salt solution and boric acid powder, hypodermic syringe.* Instruments: *Obstetrical forceps, tenaculum forceps, cord clips, tissue forceps, scissors, needles, soft rubber catheter and tracheal aspirator.* Catgut: (1 or 2) *chromic (1 plain or chromic), umbilical cord tape, gauze, intrauterine irrigator, material for packing the uterus (a few sterile gauze bandages), also a vaginal speculum.*

(22) Don't forget that in nervous individuals when the proper progress is not being made, *morphine sulphate, gr. 1/4*, hypodermically will often eliminate the nervous element and bring labor to a favorable termination; also may be used with

success in patients who become tired out in the first stage, provided the general condition of both mother and baby is good.

(23) Don't forget that labor is longer in primipara (18 hours) than in multipara (12 hours). It is longer in winter than in summer and longer in cold climates.

(24) Don't forget that the greatest number of labors begin between midnight and 6 A. M. and the largest number of deliveries occur between midnight and 6 A. M.

(25) Don't forget the normal mechanism of cephalic presentations.

- |                                |   |
|--------------------------------|---|
| 1. Moulding and engagement     | 5. Expulsion of head by extension                                 |
| 2. Descent                     |   |
| 3. Flexion                     | 6. Restitution  |
| 4. Internal Anterior Rotation. | 7. Anterior rotation of the trunk and extremities with expulsion. |

(26) Don't forget that engagement of the head has occurred when the greatest transverse diameter has passed the plane of the inlet.

(27) Don't forget that the various steps in the mechanism do *not* occur separately but simultaneously.

(28) Don't fail to use *postural version* (turn patient on side of greatest resistance) in cases of posterior position of the occiput when the head is not well flexed.

(29) Don't consider vomiting as an alarming symptom when it occurs during labor.

(30) Don't give ergot in any form until after the third stage. It is *never* indicated.

(31) Don't retard the progress of the head too long in the second stage.

(32) Don't forget that uterine rupture has been known to occur. If it is necessary to prevent too rapid delivery, use an anesthetic.

(33) Don't forget that the proper administration of ether or chloroform at the end of the second stage of labor has helped to prevent many perineal lacerations and relieves the patient of the most severe pain.

(34) Don't forget that the fetal heart is accelerated at the beginning of a uterine contraction, becomes slower at the height of contraction; toward the end of the contraction it again becomes accelerated and then slows down to normal. As labor progresses the fetal heart becomes slower. (It may be as slow as 50 beats per minute as the head is delivered).

(35) Don't forget the important symptoms of impending asphyxia neonatorum.

- (a) Gradual slowing of the fetal heart.
- (b) A change from slow heart tone to excessive rapidity.  
(Paralysis of vagus centre).
- (c) Irregularity of the heart.
- (d) Passage of liquor amnii stained with fresh meconium.  
(Except in breech).
- (e) Excessive fetal movements noticed toward the end of labor.

(36) Don't forget that some authorities advocate the use of small doses of pituitary extract at the end of the second stage of labor in atony of the uterus. Properly used; the forceps may occasionally be avoided.

(37) Don't give pituitrin in contracted pelvis, mal-presentations, mal-positions, eclampsia, fibroid diseases, diseased uteri (scars from previous operations), cardiac disease nor threatened asphyxia of the child in utero.

(38) Don't forget that pituitrin should *never* be given when the cervix is not completely dilated, nor should it be thought of before the end of labor when there is any disproportion between the head and the birth canal.

(39) Don't forget that the following conditions have occurred after the use of pituitrin before the termination of labor: (a) Convulsions in the infant; (b) Pressure necrosis of the soft parts; (c) Fetal asphyxia from too prolonged uterine contractions; (d) Deep cervical and perineal lacerations; (e) Rupture of the uterus. (The author having seen two cases).

(40) Don't forget that the logical indications for pituitary extract are: (a) Post-partem hemorrhage. (It sensitizes the uterus, aiding the action of ergot which may be given with it or a short time after) (b) Post-partem atony of the uterus; (c) At caesarean section. It may be given in small doses *immediately* before the placenta is manually separated in caesarean section or placenta previa.

(41) Don't forget the pituitrin causes clonic contractions of the uterine muscle while ergot causes tonic contractions.

(42) Don't forget that pituitary extract has absolutely no effect upon the uterine musculature until labor has started.

(43) Don't forget that danger to the life of the mother

or danger to the life of the child are indications for interference during the course of labor.

(44) Don't forget that *forceps application*, *internal podalic version* and *abdominal hysterotomy* (Caesarean section) are the more common methods of interference.

(45) Don't substitute any operative procedure for a normal delivery unless absolutely indicated. There is always danger to the life of both mother and child in any form of operative interference.

(46) Don't forget that a craniotomy is always indicated when a positive diagnosis of a dead child in utero has been made, in a case where interference is indicated.

(47) Don't attempt to apply forceps unless the following conditions are present: (a) Surgical anesthesia; (b) Exaggerated dorsal position (Lithotomy); (c) Empty bladder and rectum; (d) Completely dilated cervix; (e) An absence of any gross disproportion between the head and the birth canal; (f) Engagement of the presenting part; (g) Correct diagnosis of the position of the presenting part; (h) Ruptured amniotic sac; (i) living child.

(48) Don't forget the three varieties of forceps operation, *high*, *median* and *low*.

*High*.—When the forceps are applied to a head whose greatest diameter is still above the pelvic brim.

*Median*.—When the forceps are applied to a head whose greatest diameter has passed the brim, but is in the transverse or oblique diameter and is still in the cavity of the pelvis.

*Low*.—When the forceps are applied to a head which is upon the floor of the pelvis and the occiput has rotated or nearly rotated beneath the pubic arch.

(49) Don't forget that every application of forceps is a major obstetric operation and should be done under absolute surgical asepsis and antisepsis.

(50) Don't forget that forceps may be used as tractors, rotators and compressors. Traction, however, being the dominant function.

(51) Don't apply forceps for the sole object of saving the woman the pain of the second stage. It is *not* good obstetrics.

(52) Don't forget the three methods of forceps application: Pelvic, Cephalic and Scanzoni-Fritsch.

(53) Don't forget that the pelvic application is indicated when the head has *less* than 90 degrees to rotate, that is in anterior positions of the occiput. The blades are applied to the sides of the pelvis, the left being inserted first on account of the lock.

(54) Don't forget that the cephalic application is indicated when there is 90 degrees or more for the head to rotate, that is in transverse and posterior positions of the occiput. (The position names the blade to be inserted into the hollow of the sacrum. The opposite blade is applied to its side and is then rotated beneath the symphysis pubis). Traction, and rotation of the occiput are then carried out simultaneously.

(55) Don't forget that the Scanzoni-Fritsch method is merely a double pelvic application. The occiput is rotated anteriorly; this, of course, inverts the instruments. They are removed and then reapplied and the operation is completed in the usual manner. The method is seldom used, probably because of the extensive injury to the maternal soft parts which it produces.

(56) Don't forget to use the pelvic application in a persistent occiput in the hollow of the sacrum. The occiput should be delivered posteriorly.

(57) Don't try to apply forceps to a breech.

(58) Don't attempt to deliver a persistent chin in the hollow of the sacrum. *It can't be done*, other than by a *destructive operation*.

(59) Don't forget the dangers to both mother and child in every forceps operation.

(60) Don't forget that internal podalic version is a major obstetric operation, it is one of the common methods of interference during the course of labor and is practiced extensively in the following abnormal conditions:

- |                                 |  |
|---------------------------------|--|
| (a) Transverse presentations.   | (d) Eclampsia (when forceps are contra-indicated). |
| (b) Face and brow presentation. | (e) Placenta previa.                               |
| (c) Prolapsed pulsating cord.   | (f) Moderate pelvic contraction                    |

(61) Don't perform a podalic version simply to relieve the patient of the severe second stage pains. It is *poor* obstetrics.

(62) Don't attempt to perform a podalic version with-

out the following conditions present: (a) Empty bladder and rectum; (b) *No* elevation of Bandl's ring; (c) *No* gross disproportion between the child and the birth canal; (d) Completely dilated cervix; (e) Free mobility of the child.

(63) Don't forget that if the closed fist can be drawn through the cervix without undue resistance, there is sufficient dilatation to deliver the after-coming head.

(64) Don't attempt a difficult Podalic version if the child is not living.

(65) Don't forget to always have forceps ready in Podalic version, in case they be needed for the after-coming head.

(66) Don't forget that the hand to be inserted into the uterus in performing internal Podalic version is the one midway between pronation and supination whose palmar surface faces the child's extremities.

(67) Don't insert the hand into the uterus without first making counter pressure on the abdomen.

(68) Don't forget that a tap in the popliteal space will often bring a foot within reach, which otherwise would be extremely difficult to obtain.

(69) Don't forget to always have a competent assistant when doing a Podalic version or delivering an after-coming head.

(70) Don't forget that it is easier to deliver a large after-coming head than a large fore-coming head, because the former enters the pelvis through the transverse diameter, while the latter through the oblique diameter.

(71) Don't forget that during the delivery of an after-coming head it should be kept well flexed by means of the index finger of the operator in the mouth.

(72) Don't forget to incise a cervix with scissors if you are afraid that it will contract down upon the neck of the child.

(73) Don't try to deliver extended arms along the side of the head. Bring them down in front of the face.

(74) Don't make pressure in the avillae and groin while doing an extraction. There is danger of a post-natal palsy.

(75) Don't forget that the fetal mortality in after-coming head is greater than that in fore-coming.

(76) Don't forget to thoroughly examine the cervix.

(Pull down with tenaculum forceps after every forceps operation and after the delivery of the after-coming head). If there is excessive bleeding *suture*.

(77) Don't forget that there is frequently fatal hemorrhage after emptying the uterus in placenta previa due to a paralysis of the lower uterine segment.

(78) Don't hesitate to insert intra-uterine packs if oxytotic fail.

(79) Don't forget that intrauterine irrigation is indicated after every intrauterine manipulation.

(80) Don't forget that there is only one absolute indication for Caesarean section. It is when the birth canal is so markedly contracted that the child cannot be delivered without extreme danger to the life of the mother, through the natural passage, even when reduced in size by a mutilating operation. A contracted pelvis with a true conjugate of 7 cm. or less, or a deformed pelvis of the Naegle or Roberts variety will give an absolute indication.

(81) Don't forget that Caesarean section is at times indicated in the following pathological conditions: Uterine rupture, placenta previa, fibroids, stenosis of the cervix, eclampsia, ovarian cyst in the case of a small pelvis, abruptio placenta, (premature separation of the normally implanted placenta), moderate contraction of the pelvis (true conjugate 7-11 cm.), provided the "Test of Labor" has failed, and there is excessive size of the child.

(82) Don't forget that the types of Caesarean section are:

1. Conservative (Sänger)
2. Radical (Porro)
3. Extraperitoneal

(83) Don't forget that Caesarean section is contra-indicated, when the child is dead, unless there is *extreme* pelvic contraction, also when there is infection in the birth canal, when repeated vaginal examinations have been made, when the membranes are ruptured, and when there has been an attempt to deliver the patient by other means.

(84) Don't forget that the Porro operation (subtotal hysterectomy) is the one to be done when there is the slightest suspicion of infection.

(85) Don't forget that the extraperitoneal and vaginal sections are rarely performed because of the unsatisfactory results and the extremely difficult technique.

(86) Don't forget to advise the sterilization operation

to patients who have had repeated Caesarean sections or who are apt to have.

(87) Don't forget that symphysiotomy is practically obsolete, due to the frequent non-union of the symphysis pubis.

(88) Don't forget that pubiotomy (hebstectomy) is a very satisfactory operation in the hands of an experienced operator.

(89) Don't forget that pubiotomy is *never* indicated if the patient is examined and the pathological condition recognized during pregnancy.

(90) Don't forget that pubiotomy is indicated in the following conditions, provided the patient is in labor and Caesarean section is contra-indicated:

- |                             |                          |
|-----------------------------|--------------------------|
| (a) Funnel pelvis.          | (c) Generally contracted |
| (b) Flat pelvis with a true | pelvis with a true       |
| conjugate of more           | conj. of more than       |
| than 7 cm.                  | 7.5 cm.                  |

(91) Don't attempt to perform a pubiotomy unless you are positive that there is free mobility of the sacro-iliac synchondroses.

(92) Don't forget that episiotomy is a valuable procedure both in normal deliveries and in operations of interference when the child is delivered through the natural passage, and when the exact indications are present.

(93) Don't forget that it is indicated when rapid extraction is necessary and there is not time for the perineum to dilate. When one is sure of a laceration and wishes to divert it from the anus. When there is abnormal size of the child, or when there is abnormal resistance of the perineum, due to pathologic conditions of the vulva (scars), and when there is an abnormal mechanism.

(94) Don't forget the varieties of episiotomy:

- |   |            |
|---|------------|
| 1. Lateral and bilateral.                   | 3. Median. |
| 2. Medio-lateral (most commonly performed). |            |

(95) Don't perform episiotomy until the levator ani muscle is well stretched (opening of the anus) and there is only the resistance of the outlet of the vulva to overcome.

(96) Don't forget that a patient may develop eclamptic convulsions during labor without having had any prodromal symptoms.

(97) Don't forget that a patient who develops eclamptic



convulsions during labor should be delivered by the quickest and best possible method.

(98) Don't forget that if a loop of umbilical cord is found around the neck or an extremity, it should be removed. If around the neck, it can usually be drawn over the head or loosened so that the trunk can be delivered through it. If both of the above endeavors fail, ligate the cord in two places and cut between the ligatures.

(99) Don't ligate the umbilical cord until pulsations have ceased, unless forced to do so by some abnormality.

(100) Don't be too violent in your attempts to resuscitate the child.

(101) Don't forget that the third stage of labor begins as soon as the child is delivered. It is a very important stage of labor and its duration is from a few minutes to several hours.

(102) Don't forget that the duties of the attendant during the third stage are:

- |  |   |
|--|---|
| (a) To have asepsis and antisepsis.      | and membranes and to examine them thoroughly. |
| (b) To prevent infection and hemorrhage. | (d) To search for injuries caused by labor.   |
| (c) To deliver the placenta              |   |

(103) Don't forget that infection is more prone to occur during the third stage than during any other stage of labor.

(104) Don't forget that internal manipulations are contra-indicated during the course of a normal third stage.

(105) Don't forget that 10-20 minutes are usually required for the placenta to completely separate.

(106) Don't forget the two mechanisms of placental expulsion: *Duncan* and *Schultz*.

<p><i>Duncan</i>.—The placental separation occurs at the periphery of the organ. The maternal surface presents at the vulva. There is usually a small amount of blood which escapes from the vulva soon after separation.</p>	<p><i>Schultz</i>.—The fetal surface of the placenta appears at the vulva. The central portion separates first and the blood which escapes at the point of separation is confined behind the organ and later is expelled in the form of a clot surrounded by the membranes. (Retro-placental hematoma of Schultz).</p>
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(107) Don't forget that Schultz's method is more common than that of Duncan. The latter usually occurs when there is a low implantation of the organ.

(108) Don't forget that the signs of separation of the placenta are:

1. Antero-posterior flattening of the body of the uterus.
2. Elevation of the fundus (to umbilicus or above).
3. Lengthening of the umbilical cord.
4. Greater mobility of the uterus.
5. Soft swelling above the symphysis.

(109) Don't massage a well-contracted uterus. It may cause a tetanic contraction which is apt to cause the placenta to be retained.

(110) Don't forget that adherent placenta occurs in only 2 per cent. of cases.

(111) Don't forget that a placenta may be retained by a small, tight vagina, a contracted cervix or an hour glass contraction of the uterus.

(112) Don't wait for spontaneous expulsion of the placenta if you are *positive* that it has separated. Pressing the uterus downward and forward in the axis of the pelvis will usually expel it.

(113) Don't forget the "Baer Method" for indirect expulsion of the placenta.

*Method.*—When you are sure that the placenta has separated, see that the uterus is in the mid-line and at the height of a contraction. Grasp the abdominal wall with one or both hands above the umbilicus; the fingers beyond the rectus muscle of one side and the thumbs beyond the rectus of the opposite side. The recti muscles are pulled together and held firmly, at the same time the patient is urged to bear down as in the second stage. The increased intra-abdominal pressure is transmitted against the uterus and the placenta is expelled.

(114) Don't hesitate to use the Credé method of expulsion if all other methods have failed and you have waited at least one hour.

*Method.*—Should be done during a uterine contraction (either natural or one produced by massage of the uterus). Four fingers of the operator are placed posterior to the uterus and the thumb anterior. Pressure

is made directly downward in the axis of the pelvis and the placenta is squeezed from the uterus as a grape from its skin.

(115) Don't forget that the Credé method is of little value in true adherent placenta. Usually the hand must be introduced into the cavity of the uterus and the placenta separated manually.

(116) Don't exert traction on the cord. Inversion of the uterus at times occurs or the cord may be torn off.

(117) Don't forget to revolve the placenta a few times when it has passed the vulva, so that the membranes may be twisted into the form of a rope and thus be less apt to tear.

(118) Don't forget to thoroughly examine the placenta and membranes immediately after expulsion.

(119) Don't give an oxytocic during the third stage of a normal labor.

(120) Don't repair a perineum during the third stage of labor.

(121) Don't forget that less risk is run by leaving a small amount of placenta or membrane in the uterine cavity than by inserting the hand into the interior of the organ; provided there is not serious hemorrhage.

(122) Don't forget that it is more dangerous to insert the hand into the uterus, post-partem than it is to perform an abdominal section, all things being equal.

(123) Don't forget that the average quantity of blood lost during labor is from 300-500 mls.

(124) Don't forget that "obstetrical judgment" is essential to the man who would do obstetrical work.

(125) Don't forget that labor, from the beginning of the first stage to the end of the third, is a long and tedious "surgical operation," and from the end of labor until the end of the puerperium (six weeks after labor) is the post-operative period.

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THE CORRECTION OF STERILITY.—The writer after carefully and thoroughly considering sterility from its various aspects has this to say—purely functional sterility in a large percentage of cases is endocrinopathic in origin. He believes that insufficiency of thyroid or pituitary secretions has to do with improper development and functioning of the genital organs of the female.—F. Hurst Maier, *Pennsylvania M. J.*, 25: 78, 1921.

## THE PRE-OPERATIVE EXAMINATION AND PREPARATION OF THE PATIENT

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(Read before the Homœopathic Medical Society of the State of Pennsylvania,  
September 15, 1921)

THE importance of this subject is very apparent to the surgeon, who desires to have his patients recover from an operation in the quickest and most comfortable manner. There are new methods of diagnosis and preparation of the patient being advanced which I think are worthy of our consideration at this time.

When a patient presents himself to a surgeon, the physical examination should be thorough, not only to determine the abnormal conditions present, but to rule out many other things in the way of deformities or abnormalities. The best method is to have a certain systematic procedure in physical examination, starting at the head and examining the patient carefully to his feet as described by Richard Cabot, of Boston. If the patient is too ill to withstand a complete physical examination, the surgeon must arrive at his diagnosis without causing the patient too much discomfort.

If there are any abnormalities present they should be corrected, the amount of operative risk and the extent of operative procedure determined so as to eliminate as much as possible the inoperable cases. The old or debilitated patients should be fed and given large amounts of water under the skin, if necessary.

According to the most recent investigations, it is now becoming a necessary procedure to determine the basal metabolism of all goiter patients, and in fact some surgeons assert that all patients expecting to be operated upon should have a determination of their basal metabolism made. Of course, this is an extreme view, and at present is not practical. If the goiter patient is excitable, he should be rested for some time before the operation and the highly acid urine reduced with large quantities of alkalis in addition to forced water. No patient except in the direst necessity should be operated in the presence of an acidosis.

In all cases, where practical, the blood chemistry of the

patient should be thoroughly studied. This has recently become of great importance, and while it does not supplant urinary-analysis, it is of great aid and should go hand in hand with it. The blood chemical analysis shows just what the blood is storing up, what the kidneys are doing and what they are not doing and also the exact status of nitrogenous and carbohydrate equilibrium. While the urine analysis tells us a great deal about pathology of the kidney function, Gradwohl says, "that one might be described as an estimation of the organic changes in the kidneys, the other, the blood chemical analysis, is an estimation of the minutiae of the renal function from a pathological chemical and a pathological physiological view point."

Undue excretion of sugar in the urine is pathological but how about the interpretation of the finding of glycosuria? We know that the amount of sugar in the blood gives a far better picture of carbohydrate metabolism than does the appearance of sugar in the urine. Sugar appears in the urine in a case of diabetes mellitus purely as an overflow proposition, whereas there may be an enormous sugar retention in the blood before the kidneys permit it to leak through. Thus an individual may have a hyperglycemia long before he has glycosuria; there may be a so-called prediabetic stage to which the older writers often referred. Only a blood chemical estimation of sugar would detect this. Again there may be a case of low hyperglycemia and pronounced glycosuria with kidneys in individual cases, readily permeable to sugar. Glycosuria in this case would give one no idea of the low grade of hyperglycemia. In renal diabetes, too, there is no hyperglycemia; simply a glycosuria possibly due to unusual permeability of the kidneys for the normal blood sugar, never a hyperglycemia. How could one differentiate then between diabetes mellitus and renal diabetes, without a comparative blood and urine chemical analysis?

A rough test for acidosis is that known as the breath-holding test. If a patient can hold his breath forty seconds, there is no acidosis; thirty seconds, some acidosis; twenty seconds, moderate acidosis, and if the patient can hold his breath only ten seconds, he shows severe acidosis.

A more accurate test is that one made by the use of the three indicators, No. 1 Rosolic Acid, No. 2 Methyl Red and No. 3 Para-Nitriphenol. Dip one end of filter paper in the

urine to be tested. If the urine is acid to this indicator the spot will turn red, if alkaline, canary yellow. It has been found that normal persons at bed-rest and on a full diet do not run urine acid to this indicator except in the early morning hours (before breakfast). Patients with urine acid to this indicator at other times or throughout the twenty-four hours are, therefore, over the line and need alkali until they pass a urine which is persistently yellow to this indicator. If the patient produces acid so rapidly that the physician is unable to bring this about, in other words, if the patient runs a urine persistently acid to this indicator, he will ultimately die. If the urine is found acid to indicator No. 2, take a fresh strip of filter paper, dip it in the urine and apply indicator No. 3. If the urine is acid to this it will not change color, if alkaline, a greenish yellow develops. To be acid to this indicator means the urine is ten times as acid as when only acid to methyl red and one hundred times as acid as it should be. If the urine is found alkaline to indicator No. 2, moisten a fresh strip of filter paper and apply indicator No. 1. If acid to this indicator the urine will turn orange yellow, if alkaline, magenta red. Ideal conditions for the patient are secured when his urine is kept persistently neutral to this indicator.

If the patient shows a high blood pressure it should be reduced by proper rest and elimination provided there are no untoward results, and the diastolic pressure remains relatively normal. The percentage of hemoglobin should be determined and if found to be below 50 per cent. the patient should not be given a general anaesthetic, as we know that ether-narcosis produces a marked decrease in the hemoglobin. Operations on patients with lowered vitality should be deferred as long as the surgical condition will permit, and medical attention given to increase the general strength, as it has been determined that resistance of the body to bacterial invasion is lowered in that ether decreases the phagocytic power of the blood.

As to the pre-operative preparation of the patient, I shall not go into the extensive preparation necessary in certain selected cases, but only treat the subject in a general way as concerns the preparation of patients whose physical findings do not warrant special measures.

If possible, the patient should enter the hospital the day before operation and be given a tub bath on admission. Ca-

thartics are never used within forty-eight hours before operation, unless specially indicated, an enema being given the night before operation and again in the morning of operation. If the patient is very excitable and nervous, it may be advisable to give a sedative such as veronal, five grains, in a glass of hot milk with the evening meal, which should be light, consisting chiefly of carbohydrates.

The patient should be advised to drink plenty of water and a pitcher of water should be placed by the bedside. In the morning the patient may have a light breakfast, if the operation is not too early, otherwise, nothing but water which can be given freely to within one hour of the operation.

As to the administration of morphine and atropine, there are certain contra-indications which are found in the extremes of life, namely, under seven or over seventy years, acute or sub-acute nephritis, or a state of coma. In cases where morphine is taken with distress or disagreeable after effects, and especially in cases of idiosyncrasy, also in very weak and feeble patients and in those with respiratory affection, in such cases atropine alone may be given  $1/150$  to  $1/100$  gr. thirty minutes to one hour before operation, but as a rule no medication at all is given when morphine is contra-indicated.

The consensus of opinion is, that morphine  $1/8$  to  $1/4$  gr. combined with atropine  $1/150$  to  $1/100$  gr. should only be employed. In selected cases in whom its effects are particularly desired and not as a routine measure, the good results obtained in such cases are due to the increase of confidence aroused in highly nervous or excitable patients, the lessened amount of ether required and the decrease of mucus accumulation in the throat. This dose enables the patient to sleep quickly and easily, and in many instances allows him a more pleasant recovery from the anaesthetic. Often in alcoholics or patients not going under ether normally an additional hypodermic of morphine  $1/6$  gr. is given after the anaesthesia or the operation has been started.

One of the important objections to morphine is that it allays the reflex excitability of the air passages, thus retarding coughing and favoring the retention of aspirated blood or vomitus in the trachea or bronchi which predisposes to pneumonia.

The operation should be performed as early in the morning as is practicable, in order to reduce to a minimum the

results of the mental agitation which every patient undergoes to a greater or less degree. Keen says that "patients whose thoughts are made to run in pleasant channels as the anaesthetic is first given, usually take the drug more quickly than do those who inhale it in a condition of mental distress." This is particularly true of nervous women and children. When the fears of a patient who is conscious are developed into the terrors of semi-consciousness, in which the patient imagines the most frightful accidents are taking place, it can be readily understood that profound nervous shock is produced.

This state of mind is not only found in women and children, but also in strong, well-developed men. One of the most striking examples of fear was reported by Probyn Williams, in which he had a nervous boy nine years old, who was placed on the operating table, preparatory to removing his tonsils and adenoids. The mask was placed over his face and a relative held his hand; suddenly and before a particle of the anaesthetic was dropped on the mask, the patient began to breathe rapidly, drumming with his heels on the table, saying, "I am going." The mask was taken off and attempts made to quiet him, but in a few seconds he was dead. Nothing was found to account for the phenomena except the fear which he had experienced. Such incidents as this show us that no opportunity should be lost in endeavoring to eliminate any mental disquietude which a patient undergoes for even the simplest operation.

After the patient has been carefully and thoroughly prepared for operation and the pre-operative medication given, it is deemed advisable, if the patient so desires, to have some relative or friend stand by during the beginning of the anaesthesia in order to allay fear. The anaesthetist should encourage the patient during the first few moments of the anaesthetic, but no one else in the room should be allowed to speak or make any noise. The patient should not be restrained by an orderly or nurse unless absolutely necessary, as it will often cause struggling in a patient who would otherwise be quiet.

In summing up, we might say that first, it is absolutely necessary for the surgeon, as far as possible, to examine his patient thoroughly and subject him to every known laboratory test, including basal metabolism and blood chemistry, and, secondly, that if operation is decided upon, the patient should be thoroughly prepared in the usual manner, and as near as



possible, sent to the operation room in a comfortable frame of mind.

#### DISCUSSION

GEORGE B. MORELAND, Pittsburgh: I am sure that the paper to which you have just listened ought to be a subject for discussion by the surgeons only. Any of us who have practiced for twenty or twenty-five years can remember the ordeal that patients were put through in the past before coming to the operating table; and it is a wonder that as many got through as did. They spent almost all the evening before in being prepared by the nurses and orderlies, and the rest of the night in getting rid of the effects of the purgative—usually given in large doses. One can imagine the situation in which they came to the operating table after going through such a procedure.

Now the preparations are made long enough in advance to prevent such discomfort, and all attempts are made to reduce the danger of shock. This matter of a sedative might be discussed. Shall we give it routinely, or shall we select our cases? Better the latter method.

G. W. HARTMAN, Harrisburg: A fact of importance has been called to our attention by the doctor, in that time has changed methods of preparation; and possibly modern methods of preparation are not so well known to men who are not in constant contact with the newer hospital methods. Many times the family physician who refers the patient expects the old-time methods of preparation learned by him will be used. Sometimes, also, he expects to be requested to administer the anesthetic. This is not so usual now as it was ten years ago but when in vogue it was unsatisfactory because of incompetency of anaesthetist, poor team work in the operating room. It is a good thing also to have an understanding with the family about visitation and assistants. Then the operation can go ahead smoothly and the patient be protected from curious friends and officious relatives. I am glad that we have had this paper for an up-to-date presentation of the subject of proper preparation of the patient before operation.

I want to thank Dr. Krusen for giving us the paper.

MARY E. COFFIN, Pittsburgh: The idea of helping the mental poise of the patient is too often overlooked, and friends and relatives should be urged to keep away from the patient the fears so often given by their attitude towards the procedure. In addition to giving the quieting sedative treatment, we should try to induce the patient to look forward as hopefully as possible to the results that we are endeavoring to ob-

tain. Hope is the one thing that can give great stimulus to the attainment of the right mental attitude which is such an aid in nature's endeavor to upbuild and repair.

JOHN C. CALHOUN, Pittsburgh: Our chairman has just mentioned the fact that twenty or twenty-five years ago the patient had to undergo a terrible ordeal, and has compared the methods of preparation used then with the ones that we use today. Those of us who have been out of college for fifteen or twenty years notice a difference in the recovery of the patient after operations. We will have an accident case brought in, operated on with practically no preparation; and the patient will be over the effect more quickly than a patient who has been in the hospital for forty-eight hours. I think that the least possible amount of preparation for operation has given the patient a more comfortable post-operative recovery from the anesthetic. It is not so much the physical preparation as the mental state that the patient is in, if he has had the old-time fussing, as we might call it. Formerly the mental condition of the patients was such that they were not really fit subjects for operation in the morning.

During the last year or year and a half, I visited a clinic in New York. The operator there had a good idea. The patient began to make a good deal of fuss in the operating room, and he said, "We will not operate today." His reasons were that fear might cause the patient's death, and that if the patient fusses too much, it is better to wait until he or she can be brought to a proper mental condition.

G. B. MORELAND, Pittsburgh: I think that we too often fail to look carefully after the mental attitude of the patient. In preventing shock, it is one of the very first things to pay attention to. In discussing these matters before the nurses to whom I lecture on emergencies, I tell them that the prevention of shock begins at the time the patient enters the doctor's office, and that care has to be exhibited all along the line. I remember a patient in our hospital, a very young looking woman who was married. She told me afterwards that as soon as she was in the room and was put to bed, a nurse came and looked at her, and said, "It didn't take you long after your marriage to get in the hospital." The patient did not sleep all night, after hearing this remark. She was taken to the anesthetizing room and saw the surgeon looking towards her, and she thought that he looked as if he considered hers a very serious case. He really did not see her at all. She struggled during the anesthetizing and had a terrible time, and I think that it was her mental attitude that interfered with her recovery (the kind of pre-operative treatment that is required).

The painting of the operative field with iodine and the giving of an enema are not the only things that must be done. Friends and relatives should be kept at a distance, unless they can help by giving the patient a little hope. We cannot take the patient and cut out a piece, as we might in a piece of machinery, and expect him to go on his way without any further trouble. The psychic element enters into all our cases, and must be taken into account.

DR. R. V. WHITE, Scranton: The doctor, in his paper, presents very clearly the conditions producing shock and the means of preventing it. Removing the element of fear is a great help. In our community we have many foreigners to deal with, and they have a great fear of operative procedures. To gain their confidence and overcome their fear, when we can, is not only a problem but a great help. Dr. Crile's work in the Lakeside Hospital clinic demonstrated our way of overcoming this, and removing this element. It is interesting to see the hazards he assumed, the risks he took, and the success of his efforts. I refer to what he speaks of as stealing a thyroid. To illustrate his method I would like to cite a recent experience.

An Italian woman, a resident of this country less than one year, consulted our clinic for the relief of symptoms of advanced thyroid disease. Her environment was strange and her fear of operation was paramount almost to panic. The indications for operative measures were absolute, and yet we were positive that with the margin of safety reduced to a minimum, the risk of operation under these circumstances was too great to be assumed. With the consent of her family we undertook to steal her thyroid. Each day at the identical hour she was given a hypodermic injection of distilled water, followed in fifteen minutes by the inhalation of oxygen given from the gas machine. She was given to understand that this was treatment for her condition. After the first few days, with her rest in bed, her condition improved and ten days later the injection was of morphia and the inhalation nitrous oxide with oxygen. The result—anaesthesia followed by the successful removal of her thyroid and relief from her symptoms. We escaped the element of shock and I believe, because we removed the element of fear.

Another mistake, I believe, is in the manner of giving the anaesthetic. In many hospitals the anaesthetist is an absolute stranger to the patient, generally meeting them at the time of operation. This often creates the impression that he has no interest in the patient other than to administer the anaesthetic. Would it not be better to have the anaesthetist meet the pa-

tient, have him make an examination to discover the anaesthetist risk, and give the patient an opportunity to appreciate his interest and skill. Then again, we agree with Dr. Leopold when he mentions the giving of the anaesthetic in the room. Rushing the patient to the anaesthetizing room, which is closely associated with the operating room, and where there is always more or less noise and confusion, we think has a bad effect and creates an element of fear. We think that the ideal room for the administration of agents producing anaesthesia should be a perfectly quiet, comfortably furnished room, with a subdued light, and where the patient might rest for a short time before the anaesthetic is begun. Again we say, remove, as far as possible, the element of fear from operative cure and we will take a great stride forward in increasing the margin of safety and preventing the condition recognized as shock.

FRANCIS T. KRUSEN, Norristown, in closing: I should like to speak in behalf of the same point that Dr. White has mentioned: that the anasthetist should, if possible, meet his patient at least forty-eight hours before the operation, and gain the confidence of the patient; so that when it comes time for the anesthesia to be started, the patient may not feel so much afraid.

Another point that I have noticed is that a small hospital, for some reason or other, seems to get better results than does the large one. I think that this is due principally to the elimination of fear in the patient, and the more or less homelike conditions. A large institution is like a large machine, at times; and the human element is almost eliminated, so far as the patient is concerned.

Another point is in choosing the anesthetic. I am disappointed that Dr. Tyler is not here. He was to have discussed my paper, and would have brought out the point of the choice of the anesthetic and the preliminary preparation of the patient. Thank you.

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VALUE OF BRAM'S TEST WITH QUININE AS A MEANS OF DIAGNOSIS IN EXOPHTHALMIC GOITER.—On account of the difficulty in establishing a true diagnosis in incipient cases of exophthalmic goiter the authors have made some careful studies of cases presenting tachycardia as the only tangible symptom. They offer the following conclusion: some of their cases showed a marked tolerance while others reacted after the second dose. It must seem that the test is therefore not conclusive of itself. (According to Bram the cases of exophthalmic goiter are much more tolerant to quinine hydrobromide than the normal.)—P. Sainton and E. Schulmann, *Bull. et mem. Soc. med. d. hop. de Par.*, 37: 1304, 1921.

**REPORT OF A CASE OF PAN-SINUSITIS WITH UNRECOGNIZED DIABETES MELLITUS AS A PROBABLE CONTRIBUTING FACTOR****WILLIAM G. SHEMELEY, JR., M.D., PHILADELPHIA**

(Read before the Homœopathic Medical Society of Pennsylvania, Sept. 13, 1921.)

WHENEVER any chronic case necessitating surgical intervention fails to make average improvement in spite of careful operative work and proper after-treatment, we are led to search for some unrecognized constitutional disturbance. Those which stand out above all others, are syphilis, tuberculosis and diabetes.

To detect syphilis one may employ the various serological tests together with observation of the different clinical manifestations of the disease.

Tuberculosis may be detected by certain laboratory reactions, the use of the X-ray, and the various clinical signs often found in the presence of tuberculosis.

In diabetes, for a long time it was the practice to depend upon the analysis of the urine alone for its detection. Within the past few years the use of the blood-sugar test has demonstrated that often when a urinalysis has failed to show the presence of sugar in the urine, the blood-sugar estimation will prove to be above normal. <sup>1</sup>(Normal blood-sugar content ranges from 80 to 110 milligrams per 100 c.c. blood).

Just as a negative Wassermann test does not prove that syphilis is not present in a given case so, too, negative sugar tests in a urinalysis is not sufficient evidence to preclude the possibility of diabetes. The clinicians advise the making of the spinal Wassermann, feeling that it is a more delicate test than that made from the blood in those cases where the blood proves negative (<sup>2</sup>Hecht-Gradwohl, Colloidal—Gold), so one should not exclude diabetes until a blood-sugar estimation has been made. Even if the urine prove positive to sugar, the blood-sugar test is a better index as to the condition of the patient, and coupled with an estimation of the 'alkali reserve' is of the greatest value in rendering a prognosis. <sup>5</sup>(Normal in a resting adult 80-53 vol. per cent.).

REPORT OF CASE—Mr. Henry H. Office Record No. 4213. Age 51 years. Patient first reported for examination August 9, 1920.

**HISTORY AS RELATED BY PATIENT**—Has had catarrhal trouble for many years. Last January had a severe cold. While in bed, and especially in the forenoon, pus would begin to drain through the nose, and a headache with which he awakened would disappear. About March, 1920, a submucous operation was performed, also part of the left middle turbinate was removed. Since the operation the pus has not diminished. Nose feels full. There is no cough. Ears seem to be normal. The sense of smell is no longer present. People notice an offensive odor from the nose. Pus drops back into the throat from the nose.

**EXAMINATION**—Patient, male, of rather an obese type. He is about 69 inches tall, and weighs at present 193 pounds. The color of the skin of the face is rather waxy, with the appearance of the pallor of sepsis.

**Nose**—Mucous membrane is rather pale on the right side. In the region between the right middle turbinate and the lateral wall there is free greenish-white pus. Pus of like character is also visible in the region of the left side, but not so plainly visible because of swelling of the tissues. The pus was wiped away on both sides and patient's head inclined forward for five minutes. Examination showed that pus had again appeared in the same location, but more pronounced on the right side than on the left.

**Throat**—Tonsils small, submerged, no deposits on pressure. Secondary catarrhal pharyngitis.

**Otoscopic**—A. D. Membrane intact; healed scar in posterior superior quadrant; opaque; slightly dull. Long process of the anvil not visible because of the capacity. Hammer handle slightly fore-shortened, denoting a moderate amount of retraction. Moderate mobility with Siegleotoscope.

A. S. Same findings as in A. D.

The patient had been radiographed previous to his visit to the office. Examination of the films revealed that all the accessory sinuses cast denser shadows than normal.

August 16, 1920. Further history elicited from the patient revealed that he had a glycosuria. His physician had told him not to eat starches or sugar. His last urinalysis had been negative to sugar. Upon the strength of this report a urinalysis of a twenty-four hours' specimen was made by Dr. St. John, of the Philadelphia Clinical Laboratory. No sugar was found. Blood-sugar was 0.15 per cent.

On August 23rd, 1920, the patient had a double maxillary sinus operation after the method of Denker. Four days later both packs were removed and the cavities washed. They were practically negative.

By September 15th, 1920, the left maxillary sinus was negative, and had been so for several weeks. The right maxillary sinus varied from slightly positive to negative. However a considerable amount of pus was still present on both sides of the nose.

Since a considerable amount of polypoid tissue was present both ethmoid regions were operated and the nasal opening of each frontal sinus was enlarged. In spite of the fact that washing each frontal sinus showed it to be negative, a considerable amount of pus was still present in the nose. A diagnosis of purulent rhinitis was considered, and because the blood-sugar estimate revealed (on December 20, 1920) 150 mgm. per 100 c.c. of blood, a persistent diabetes mellitus was considered as the cause of the purulent rhinitis.

Because the patient still complained of headache, the possibility of some uncorrected refractive error was considered. The patient was wearing—

O. D. + 4.00 D cyl. axis  $150^{\circ}$ .

O. S. — .75 D cyl. sp. = + 4.00 D cyl. ax.  $30^{\circ}$ .

Vision with present correction—

O. D. 6/7.5

O. S. 6/7.5

The patient was refracted May 6, 1921. Homatropin was used as the cyclopegic. The examination of the right eye revealed nothing pathologic. The left fundus showed disc elongated slightly, axis  $120^{\circ}$ ; slightly pinker than the average. Physiologic cup small, well defined. Lamina cribrosa not discernible. Size and distribution of the vessels normal. The macular region contains a half-dozen white, somewhat glistening spots, suggestive of old hemorrhages. These changes in the macula are, no doubt, the cause of poor vision in O. S.

*Refraction—*

O. D. — 1.25 = + 5.00 axis  $145^{\circ}$  = 6/7.5

O. S. — 1.12 = + 4.25 axis  $40^{\circ}$  = 6/6.

With Maddox rod he had 2 diopter esophoria. The final prescription was:

R — 1.25 = + 6.00 axis  $145^{\circ}$  = 2/3 diopter prism b. d.

— 1.12 = + 4.25 axis  $40^{\circ}$  = 2/3 diopter prism b. u.

For near add—

+ 2.25

+ 2.25

After wearing the new correction for a short time patient reported that the headache had practically disappeared. The nasal condition remained about the same. Patient has gained in weight; present weight 207 pounds. His color is much better and physically he feels like a different person. All sinuses are negative except the right maxillary; at times this is positive. A posterior end hyperplasia of the right inferior turbinate was removed in August, 1921. Following this the discharge from the right side of the nose almost ceased. The diabetes is under the care of an internist in whose hands the patient was placed following a blood-sugar estimation made on June 24, 1921, at which time the blood-sugar was .33 per cent. The patient admitted he had been eating freely of French pastries.

SUMMARY: 1. The diagnosis in any case should be made only after advantage has been taken of all possible aids to assist in reaching a conclusion.

2. Diabetes mellitus frequently escapes recognition where dependence is placed upon urinalysis alone.

3. A blood-sugar estimation should be made in every case that is persistently chronic in spite of proper treatment. If the percentage of blood-sugar found warrants it, an estimate of the alkali reserve should also be made.

4. Frequently some slight uncorrected condition may cause a persistent symptom apart from the grosser pathological condition that seems to be causing it; as in this case the persistent headache was due not to the sinus disease alone but to an improper refraction and 2 diopters of esophoria uncorrected; also the hyperplasia of the posterior end of the right inferior turbinate evidently had some part in the apparent chronicity of the discharge from that side.

5. All diabetic patients should be under the supervision of a competent internist.

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### DISCUSSION

DR. GEORGE W. MACKENZIE, Philadelphia: I think that it would be a pity not to discuss this paper, which was so well prepared. I believe the subject of blood sugar is a very important one. In the case of encephalitis that I referred to this morning, there was no sugar present in the urine on four examinations, but 353 mgm. of sugar per 100 c.c. of blood, whereas, normally, it should have been between 80 mgm. and 110 mgm. The presence of the excess of blood sugar can be explained by reason of the fact that the patient had an encephalitis involving particularly that portion of the pia mater in the neighborhood of the ventricles. We know that lesions about the fourth ventricle tend to produce sugar in the urine. This patient did not have the sugar in the urine but did show an excess in the blood. I am familiar with the case Dr. Shemeley has reported, but less so than he is because he has seen more of the case. I wish to emphasize the importance of testing the blood for sugar, even when the urine gives a negative finding.

DR. WILLIAM G. SHEMELEY, Philadelphia, closing: Dr. Mackenzie has emphasized the importance of the blood sugar estimation. It has just occurred to me that Dr. Muncy, at the Washington meeting, asked a question, after Dr. Wurtz had read his paper, concerning some operative eye condition. A case that Dr. Muncy has operated on had gone bad; and afterwards they found that the blood sugar was high, although the urine was negative. He brought out plainly the fact that we cannot place too much dependence on the urine examination alone. I have seen cases go bad in the hospital, following operation, especially when chloroform had been used as an anesthetic. The patient developed a coma similar to diabetic coma with acidosis. Formerly we considered this due to the poisonous action of chloroform. We were accustomed to take a history and make a urinalysis. Some patients did not even have a urinalysis made; and some died, apparently from the poisonous effects of chloroform; but in the light of later knowledge we should now consider the fatal result possibly due to diabetes.

**CEREBRAL ABSCESS OF OTITIC ORIGIN  
REPORT OF A CASE**

BY JOSEPH V. F. CLAY, M.D., F.A.C.S.

(Read before the Homœopathic Medical Society of the State of Pennsylvania,  
September 12, 1921.)

It is not our intention to inflict you with a wearisome recital of what you already know of the various phases of this important subject but rather to report briefly a case recently operated with the idea of stimulating some discussion of this grave complication of suppurative middle ear disease. While we are encountering fewer intracranial complications of otitic suppuration than we did a decade ago, there is still room for improvement. This reduction in the number of grave extensions is due to the prophylactic nose and throat work and to the better understanding and adequate attention by the general practitioner, who sees these cases first. The case which we are about to report is one in which such modern interference was withheld, with consequent extension beyond the confines of the temporal bone.

The little patient, a boy of five years, was admitted to the Otological Department of the Women's Homœopathic Hospital of Philadelphia, March 28, 1921, with a history of intermittent earache all winter. There was a family history of tuberculosis, the child's mother having died of the disease and a brother of the patient now suffering with the malady.

On March 1st the earache recurred with renewed vigor, accompanied by temperature of 103 F., and vomiting. This subsided, according to the stepmother's statement and one week later, the earache recurred, and with it a swelling back of the right ear. There was no discharge from the ear. This is what threw the attending physician off his guard. He evidently had forgotten that mastoid extension from an otitis media can and does occur without rupture of the drum and hence the absence of discharge.

For the following two weeks the child was treated by internal medication, and failing to obtain relief from same, sought assistance at our hospital.

Examination of the lad upon admission revealed the following: Temperature, 99.2 deg. F, pulse 116, respirations 20.

The child appeared toxic, answered questions slowly and complained of some pain in the right mastoid. There was a fluctuating swelling in the upper portion of the right mastoid; the right ear drum was injected and bulging. The left ear was normal.

The right membrana tympani was incised by a member of the staff who reported a dry tap.

The blood count made at this time showed a red count of 3,860,000; white cells 27,000.

March 31st, the second day after admission, Dr. Palen performed a simple mastoidectomy. A sub-periosteal abscess was evacuated. The mastoid was infantile in type. The antrum was small and contained a small amount of pus. A probe passed into the antrum went directly into the cranial cavity.

According to the clinical history, the child did well until April 12th (twelve days after the operation), when there occurred a rise in temperature and pain in the right temporal region, anorexia and mental sluggishness. The wound was inspected, and some pus was found. On account of this finding and the absence of neurological signs, the symptoms were interpreted as due to pus absorption from the wound.

Two days later, in spite of adequate attention to the wound, the patient's condition was much worse in that he had several attacks of vomiting and the mental lethargy was marked. The temperature was now subnormal and the pulse 66. The blood count at this time showed the red cells to be 3,670,000; and the white cells 20,500; the differential count showed the polynuclears 75 per cent.; lymphocytes 19 per cent.; mononuclears 5 per cent., and the transitionals 1 per cent. The urine showed a marked acetone reaction.

On account of enforced absence from professional activities Dr. Palen, the Chief of the Department, asked me to see this patient and to assume charge of same. My first observation of the little fellow was made April 15th, in the late afternoon, and showed the following: Very marked somnolence bordering upon a stupor, cerebration very slow, the patient having the greatest difficulty in answering the simplest question. An extreme degree of pallor and emaciation were present. The temperature and pulse were subnormal, the pulse rate being between 58 and 60. During the examination the child vomited and this was projectile in type. The pupils

were moderately dilated and reacted very sluggishly. There was no nystagmus, ocular paralysis or deviation. The right fundus revealed a blurring of the optic disc and marked engorgement of the retinal veins. The left fundus showed similar changes but to a lesser degree. The superficial and deep reflexes were exaggerated and there was a positive Kernig.

It was evident that we had an intracranial collection of pus, producing marked pressure and a tentative diagnosis of temporal lobe brain abscess was made and immediate operation advised. Because of the necessity for obtaining permission from the parents for further operative interference, the operation was delayed until the following day. At this time the child was comatose.

The operation was practically started without an anaesthetic. The mastoid wound was quickly freed of the unhealthy granulations present. A probe passed into what appeared to be the mastoid antrum, entered the temporo-sphenoidal lobe of the cerebrum. A trephine opening was made in the squamous portion of the temporal bone above the external auditory canal. The dura exposed was decidedly dull and thickened. Pulsation was well defined. The dura was incised evacuating a large amount of thin pus, culture of which developed the streptococcus. The pus was ejected from the brain under marked pressure. This was restrained and the fluid allowed to evacuate slowly. An interesting observation made in this case was the fact that when the dura was incised, the brain tissue, instead of herniating, appeared to have fallen away and the dura was sucked in with the respiratory movements. The reason for this was easily seen, for after the pus ceased to flow from the brain, the finger introduced into the opening disclosed a large cavity in the brain substance. By very careful palpation a capsule was not discoverable. A good sized gauze drain was introduced into the cavity and the wound edges approximated. The entire operative procedure consumed fifteen minutes. The child was returned to bed in good condition and reacted promptly.

The next morning the patient was conscious with reacting pupils and expressed a desire for food and insisted upon sitting up in his crib. The mental lethargy had entirely disappeared. The wound was redressed and the drain removed, evacuating a quantity of pus. The cavity was very carefully irrigated with warm saline solution. This wound dressing

was carried out twice daily until the pus from the brain practically ceased. At the end of ten days the child was permitted to sit out of bed in a chair, and at the end of two weeks he tried to walk. It was now found that his gait was abnormal, but this was due entirely to changes in the muscles, due to non-use. Under the careful attentions of the masseuse, Barbara Gruber, this cleared up and the child's walking became perfectly normal. He left the hospital at the end of a month and the brain and mastoid wounds were entirely healed in eight weeks.

Up to the present writing, now four months since recovery, the child has remained free from head symptoms, but has a cough, the cause of which the pediatricians have been unable to diagnose.

In this case it is our belief that the brain abscess was present but latent at the time of the mastoid operation, and that the brain infection occurred as a result of direct erosion of the *tegmen*. The length of time which elapsed from the advent of the acute suppurative otitis media, March 1st, to March 28th, when he was sent to the hospital and came under expert otological observation, was ample to allow of extension beyond the confines of the temporal bone. This was further facilitated, and we believe substantiated, by the fact that there had been no perforation of the ear drum, either pathological or surgical. Why a child was permitted to suffer from more or less constant ear pain with such suggestive symptoms associated as vomiting and high temperature, without otological investigation, is almost unbelievable in these days of modern methods.

The method of drainage of the abscess area is open to criticism; however, in a rather limited experience with otitis cerebral abscess, we have tried various types of drainage to find them all wanting. We feel that the successful termination of the case was due, first, to the reactionary powers of the patient, he being a child and, secondly, to the very careful attention to the after dressings, and in this connection we wish to give the credit due to Dr. J. R. Criswell who devoted much time to this detail.

I wish, in closing, to thank Dr. Gilbert J. Palen, the Chief of the Department, for his confidence in placing the case in my hands, and for the privilege of reporting same.

## DISCUSSION

DR. J. W. ELY, Washington, Pa.: On the first of last month I was called to see a patient that had been suffering with pains in the back of the head, at the base of the brain. She had been treated by four regular or old school doctors who, unable to diagnose the case, had used the X-ray, found no obstruction and called in a specialist. This specialist said there was pus in the mastoid process and operated, but found no pus and failed to relieve the patient of her suffering.

I was called in and found the patient had been suffering greatly for three weeks; she had a very high fever, temperature 103, pulse 120.

Her pain was at the base of the brain and I diagnosed it as inflammation of the meninges of the brain, caused by washing her hair and head with cold water and injecting ice water into the ear in an attempt to cleanse the ear, which I found to have been done some time prior, and I think chilled the brain.

I gave gelsemium in the sixth solution. The second night the patient slept nearly the entire night. I gave belladonna as an intercurrent remedy, and the patient made a full recovery.

I think this would have resulted in an abscess of the brain, or might have developed into cerebral meningitis, had the remedies given not arrested the disease.

DR. GILBERT J. PALEN, Philadelphia: I appreciate greatly the very generous words of praise which Dr. Clay has given me. I have had many pleasant years of association with Dr. Clay, and have the greatest respect and admiration for his ability and loyalty. I feel myself greatly favored in being afforded the opportunity of publicly expressing these feelings of mine for Dr. Clay.

The case which Dr. Clay has described is not only an interesting one, but also an unusual one. Cases of brain abscess which live are rare. I have had numerous cases of this sort and the mortality has not been small.

If the general physician would give closer attention to the case of chronic otorrhea which he treats many of these cases would not develop. If he would carefully observe them and take careful history, as in other cases, he would occasionally find symptoms suggesting possible deeper complications. I have seen cases in which the patient had complained for years of severe one-sided headache, this being due to the presence of a latent brain abscess. I have in mind a case in which the first symptom, pointing to deeper involvement was an epiphoria, this pointing to a beginning facial paralysis. Cases

which exhibit recurrent pain are indicative of an obstructive condition and should be carefully watched. A sudden cessation of the discharge may mean that there has been a break through the cavity walls of the mastoid in some other direction. Careful and thorough observation is important in this class of cases.

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### **MATERIA MEDICA: THE NEW AND THE OLD**

DANIEL M. LANDIS, M.D., PERKASIE, PA.

(Read before the Homœopathic Medical Society of the State of Pennsylvania,  
September 14, 1921)

MATERIA MEDICA is the 100 per cent. armamentarium of the homœopathic physician. In this we do not include injuries such as broken bones and swallowing foreign substances which sometimes become lodged or lacerate internal organs, punctured wounds, ruptured veins or arteries and such like, all of which should be mechanically treated and then homœopathically prescribed for.

I think you will all agree that the true homœopath or the homœopathic idealist considers the capping climax of his noble work, after he has thoroughly settled all hygienic and sanitary conditions of his patient, is to be performed when he selects his medicine. Therefore, it is needful that he be well armed and prepared; that he have access to the best books on the subject of *Materia Medica*, because I think you will all agree that we cannot depend too much on our fickle and transient memory. It is also needless to say that we cannot prove or try many drugs but we can often verify what others have with great labor and sacrifice proved for us. If that be so it is our duty to have the best up-to-date *materia medica* to be had.

So, of course, it appears as if we must have something new and great and elaborate to follow the times. Now some advise us to have a revised *materia medica* and that should be brought out of the laboratories where the symptoms have been derived from experiments on the lower animals and tissues and we do not want to discourage them too much, nor do their additions hinder much, but let me tell you, they are cheap and of little value and of short duration.

I believe also that it is agreed by most of you that the

materia medica of the short past, that is of Hahnemann, Hering, Farrington, Coperthwaite, Allen and others of that type, who have added some, has been so rich and so prolific of success in the hands of our noble ancestors and such crowning results obtained that every true homœopathic prescriber has verified since and I am sure that most of us who have followed in their footsteps a little and in a bungling way have had very gratifying results and might have obtained better results yet, had we followed them more closely and with better understanding. Now then, in what direction does our duty lie? Is it in trying to shake the confidence of our successors in making ourselves cheap by using up our students' time by amusing themselves in vivisection and the study of moonshine (radium), mountain ozone, etc., or shall we study and improve on the symptoms of the noble drugs upon which our laurels have been won? I think you will all agree that our duty is plain after having followed the fads as far as those erratics would compel us in order to obtain licensure and to be familiar with what is going on around us.

This latter part, called new materia medica, is liable to change every day and is only good for that length of time. It is always new and always old and is never worth much, and when I sometimes think of the wonderful high standard derived by such practice and the high cost for such an education and consequently the high cost to the patient and the little good done for his betterment, so that he flees or flops over to the charlatan or quack; it makes me think, is there really much difference in the result of those two modes of treatment, as one kills about as many as the other, and if any happen to survive after having gone their rounds, it is a miracle.

We believe heavy overdosing is not so common at this time as it used to be in the days of Hahnemann, because we are all agreed that his method had a wonderful effect on the whole medical world in drugging and overdosing. Now then, we all agree that our old materia medica might be simplified and our symptomatology to a certain degree modified as each and every prescriber may verify some parts and especially for his or her own use; but we all agree that it is extensive enough for continuous study and continuous improvement that we must say, like Dr. Kent, who was a great expounder of homœopathy and who understood it well, and



yet he would often say to his students that if he had any spare time or a few moments to himself, he would study *materia medica* and would always find something new. New out of the old; can we not say the same?

Is then our *materia medica* so simple that it can be absorbed or exhausted in two short years at college (all the time, I believe, allowed for it at present, out of the seven) and need we no further study? Those of us who have devoted a part of our lives to it find, like Prof. Kent, that we have to learn every day and even then the provings given to us so far are sufficient to cure most of the curable cases coming before us, providing we can select them properly, and yet it is likely many more may be added in the near future.

There are many cases that no one is able to select a curable remedy for. If we could, no one would die and I have no time or encouragement for some who would try to tell us or make us believe in selecting something very remote or put the standard of selecting so high and in such a complicated form or carry us in a maze or mixed psychological hallucination of pretense. Homœopathy does not lie there but in well defined symptoms and characteristics which most of us may attain; however, the field is large and rich and easy if we only try.

Most of our polycrests and others are easy and have keys to their innermost recesses for all who want to. Again, I say they may soon be understood by the student if unfolded by way of the keynotes and then on down to the remotest symptoms. Also they may even be taught to the laity as they have been in the past, which method, with the simple remedies, has secured many warm friends to homœopathy. But let no one think that that is the highest attainment to this *materia medica*. We can study and see thousands of cases and often some keynote or characteristic or peculiar symptom escapes us and we fail to cure. But the field is large and inexhaustible even though the case may be uninteresting and hard and called incurable, and lo! just one glimpse changes the whole field and we see a keynote that leads to all the others and as a result we have a wonderful cure and we are almost made to shout for joy.

Can such a *materia medica* then be revised? Would it not endanger our very foundation? It may be added thereto all you want and some may stand with the old for a little

while, but you will not notice it very long. We believe new remedies may be added, but the most of them will soon be relegated to the past.

You may ask then, will homœopathy be relegated to the past, and I answer there are still thousands of good and faithful homœopathic physicians and Gideon's band of three hundred true and tried can be selected any day so that we have no fear of homœopathy becoming a lost art. You say, will you then tell us how this may happen as homœopathy is being very scarcely taught in our colleges and many of them have gone out of existence and more are on the downward road, and in some places it is taught in the universities where the lion and the lamb are lying down together, and the lamb inside of the lion. It is true and it looks that way, but in the face of present conditions and circumstances where the colleges have been so standardized that many have gone out of existence so that the others and the few graduates might become profiteers pure and simple. Many parts of our land are already suffering for the want of physicians, and it will be only a matter of time when the people are going to express themselves.

We have no complaint to render as we have been splendidly recognized as homœopaths by the nation and most of the states, probably through the efforts and attainments of many of our graduates who have made themselves masters of the whole medical art as well as homœopathy. Therefore, let us strive on to do our best. When Dr. Charles Sawyer, that wonderful and great mind in a small body, stood before the American Institute of Homœopathy in a full convention at Cleveland, O., in 1919, and said: "Gentlemen, Doctors, do your best." he did not mean that we should fill our patients with hypodermic injections or cram their throats with noxious mixtures or let nothing in the form of radium sewed in their livers or other vitals, but he did mean that we should select our symptoms well and prescribe the best selected drug and then be man or woman enough to wait for the result. Not being continually jumping around with drugs and getting our best mixed up by lack of confidence of ourselves and in ourselves and calling in all the specialists and surgeons that we could think of, even before our drugs could have a reasonable chance to cure. I surmise he did not mean that we should give up to osteopathy, serotherapy, autotherapy and other similar cults where we might build up a profitable quack trade,

but in the end would not be beneficial to the patient only so far as to relieve them of their cash and prevent further dissipation in that line. Let us then follow the noble teachings of this man as we have also a host of others like McCann, Hinsdale and Dewey of Ann Arbor, Royal of Iowa, and many others who I could mention, who have built up a reputation by sticking to the faith and who are living monuments in our noble profession.

#### DISCUSSION

DR. E. A. KRUSEN, Norristown: The subject that the author of this paper has selected, *Materia Medica*, Old and New, is a very appropriate one at this time. To go back to our old *materia medica*, as we had it handed down to us by Hahnemann and his immediate followers, there is very little that we have had in the works of those authors that we could eliminate. They have stood the test. They were good at that time; they are good yet. They never lose their value. Drugs were the same then as they are today, and always will be. Our works on *materia medica* in our libraries are works that you can always keep. They are always to be relied on. They never grow old. I suppose that nearly all medical works besides the *materia medicas* do grow old; and most of us have hundreds of books that could be relegated to the scrap heap at this time and never be missed. But we cannot lose one of our *materia medicas*.

The idea of Hahnemann was not that everything that was needed in curing the sick would be found in the homœopathic remedy. He divided medicine into three parts: Expedients, palliatives and curatives. When we come to cure disease by the application of the remedy, I believe that there is nothing that will equal the homœopathic law of ours. Now by that statement, I do not mean that every form of disease or all cases that get well under treatment are cured homœopathically; for, in addition to that, we have new discoveries. We have new methods. We have a new *materia medica*, so to speak; and when our remedies are proved thoroughly on the healthy, either through the human body or through the animal kingdom, they will be as valuable as the older ones. Where we have not authentic provings, after a time, you will find these new remedies relegated to the scrap heap. We have an instance of that in the old school, where they have thrown aside remedies that they thought were not good; but yet, under their homœopathic provings of things they have thrown away, we have found good and are still using them.

Our early homœopathists, Hahnemann and his followers, used the serums; and they are good. We have provings of these drugs. Of course, we have had improvements on what they started with. The glandular products were used by our early writers, and so we are using them today. We cannot confine ourselves to one method of treatment in managing the sick. We had an illustration given us today by Dr. Klopp in the hydro-therapy treatment in the management of the mentally sick. As a therapeutic agent in securing sedative effects, I believe there is nothing equal to hydro-therapy, the continuous bath; I do not see that we can revise our materia medica. We can only make additions to that which we already have and that which we had years ago. It was good then, and it is just as good now. You will find materia medica that was outlined in Raue's works and in Guernsey's Obstetrics; although we have laid the latter on the shelf, take it out and look at it—you will see that the remedy is just as good today as when the book was printed.

Do not be afraid to use the homœopathic materia medica. It will support you every time.

DR. J. V. ALLEN, Philadelphia: I do not think that it is possible to make any remarks on the paper. As I said, we should have more of this character of papers, and a larger audience to receive them. I believe that our teachers of homœopathy are wanting in many of our colleges. If we allow our foundation, which is materia medica, to be neglected our colleges will get into the same rut as many have done in the past.

DR. D. N. LANDIS, Perkasië, closing: I should just like to add this: Last evening we heard at this meeting that it was a great incentive for the laity to consult a physician who could make a show of his professional skill by operations, surgery, hypodermic injections or something like that; but I tell you that it is just as gratifying to have results obtained medically. Many parents and children are grateful to the physician who walks into the house and hands the sugar pills to them. They say, "If sugar will cure, we are glad to take the sugar." The homœopathic physician can make a greater reputation than can they who use the knife; if he studies his materia medica and is able to handle it, I am confident that he will receive as much pay and honor as he could by any other kind of practice outside of homœopathy.

## EDITORIAL

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### MONGOLIAN IDIOCY

THE mongol is not infrequently mistaken for a cretin and because the prognosis and treatment in these cases is entirely different, it is most important that such an error of diagnosis be avoided. Some neurologists do not recognize the mongol as a distinct clinical type, but anyone who comes in contact with a large number of feeble-minded children must be impressed by the fact that the so-called mongolian idiot is in a class by himself, and cannot be simply dove-tailed into the category of ordinary feeble-mindedness.

Mongolian idiocy is a form of primary amentia not of hereditary origin, but occurring as a result of failing procreative powers on the part of the parents. Mongols often represent the last-born child of a large family in which case the mother is nearing middle life, or has become exhausted from too frequent child-bearing. Extreme age of the father may also be noted in the history of the case. Shuttleworth and Potts refer to the mongol as an unfinished child, representing a phase of fetal life. There is no evidence of syphilis as an etiological factor. The sexes are about equally affected.

The mongol represents a characteristic appearance, his resemblance to the Mongolian race giving him the name. He is undersized and physically frail; many mongolians die during infancy and few grow up to adult life. The head is round, or brachycephalic; the eyes are obliquely set and almond-shaped and an epicanthic fold is present. The nose is flat and the tongue is transversely fissured and has hyperthrophied papillae. The fissures, however, do not develop until the child is three to four years old. The tongue is not enlarged as in cretinism. The hands are broad and the fingers are short. The little finger often shows an inward curve of the distal phalanx. A congenital heart lesion is frequently encountered in these children. They are usually mouth-breathers, but the removal of the adenoids does not bring much relief from this condition since it is mainly due to the poorly developed nasal

chambers and high arched palate, and to lack of attention on the part of the child.

The mental and physical development is slow and never reaches beyond the mentality of a very young child. They do not walk until after the second year, and are late in learning to talk. Their speech is always very elementary and usually difficult to understand. They may show great love for music, however, and they often show unusual powers of mimicry, but they seldom can be taught to do more than the simplest things in life. Milder types, simply suggestive of the mongol, may prove more satisfactory from the mental standpoint.

The resemblance between mongolism and cretinism is only superficial. In mongolism the child's abnormality exists from birth, while cretinism does not show its characteristics until after the sixth month. The slanting, close-set eyes; epicanthus; rounded, brachycephalic head give the mongol a very characteristic appearance quite different from the short, stunted, fat, pot-bellied cretin with his dull apathetic face, large head, eyes far apart, thick lips and protruding tongue.

Again, mongolism differs from cretinism in that it does not respond to treatment with thyroid extract. Small doses of thyroid extract, no doubt, benefit some cases purely through the tonic effect of this substance on metabolism, but the large doses, which are frequently used, do more harm than good. Careful nursing and training, as recommended in the management of feeble-minded children, applies to the mongol in every particular.

C. S. R.

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#### AFTER MICHIGAN--OHIO

Now that the homœopathic department of the University of Michigan is about to be closed, perhaps forever, the main duty of the homœopathic profession of the Middle West would appear to us, to be a concentration of all constructive educational work upon the Hahnemann of Chicago. If successfully carried out, as it can be if there is good organization and unity of purpose, much will be accomplished towards the defeat of the next point of direct attack upon us, namely the Homœopathic Medical Department of the University of Ohio. That the latter is not at all a figment of the imagination is

attested by the January issue of the *Bulletin of the Cleveland Academy of Medicine*, one page of which is devoted to the subject in a half open and half covert kind of a way. That the attack is to come, and to come shortly, is beyond question. Perhaps it will come too soon to enable us to prepare an adequate defense. The same arguments that were used by "THE" Idealist in the Michigan affair will be advanced in Ohio. To the average layman the argument is convincing; to those who know, the argument is one based upon false logic. Briefly, it is stated that in all things excepting *materia medica* the two schools of medicine are identical; for example, anatomy, physiology, chemistry, pathology, diagnosis, surgery and the specialties. So far the statement is absolutely true. In the recognition of the fundamental principles, in the various medical branches, we are identical. In the application of those principles there is considerable difference of more than academic character. As a matter of fact, there really should be no difference either in *materia medica*, or perhaps we had better use the term pharmacology, the science which relates to the action of drugs. Idealism, followed out to the extent of being practical, would construct a *materia medica* or pharmacology presenting a complete statement of drug action, upon the healthy organism, the proper application of which is to cure the sick. All, then, depends upon a proper presentation of basic facts. In all the medical sciences facts are incontrovertible; it is the arrangement of established facts, the varied points of view of mankind, that makes the differences in thought, and gives the world the variety which it possesses. To force uniform interpretation and adaptation of facts is to make the world a place of monotony, not fitted for happiness or real prosperity. Under such circumstances it becomes only a place for existence.

As a matter of fact, however, the *materia medicas* of the regular schools in medicine are by no means alike. This fact is universally acknowledged. Both *materia medicas* are in need of revision, and are undergoing the thorough study of masters in the art. The homœopathic *materia medica* has, from the beginning, recognized the value of subjective symptoms, and has laid special stress upon the same as being of the utmost value in prescribing. It has not, at any time, denied the importance of anatomic changes by drug action; such, however, are of subordinated value because they represent terminal

conditions which are in no sense curable. They are of value, of course, when we are fully acquainted with all the procedures intervening between complete health and advanced pathology. For many years we, as a school of medicine, stood alone in our contention that the subjective symptom was the thing. Our studies in drug action drew fine distinctions which were ridiculed. These fine distinctions related, for example, to such matters as pains, their directions, recurrences, aggravations and ameliorations. Many of these modalities were at the time regarded as ridiculous by our competitors. Many of them have since been proven to be of the utmost value in diagnosis, as well as in treatment. Many of these subjective symptoms have come into groupings, have made up symptom complexes as it were, which modern endocrinology is rapidly explaining as founded on actual scientific fact.

Our *materia medica* has been regarded in the past as ridiculous by its detailed description of constitutional peculiarities, some of them carried to such an extent as to have been regarded as grotesque. The endocrinologist of today is classifying these constitutions. It matters not that Hahnemann spoke of the psoric and other constitutions; he simply gave a theory of his own, while the actual facts or data going to make up the constitutional peculiarity remain undisputed. Of recent years Sir James Mackenzie has become a leader in what to the old school is a new line of thought, namely, the value of the subjective symptom as evidence of the earliest possible disturbance of function. Sir James has gone so far in this direction as to become a leader of an increasing number of clinical investigators who are now working out the clinical value of the subjective symptom in the St. Andrews Institute for clinical research.

Now all of this has a practical bearing on the point at issue. While the homœopathic *materia medica* is apparently the only matter for difference between the schools, the education of the physician who is to apply it is of the very greatest importance.

The contention of the homœopathic school is that prescriptions must be based upon a totality of symptoms. Our students have this principle grounded into them from the first year of the medical curriculum. Totality of symptoms represents a very high type of clinical knowledge; it includes the factors which go to make up the diagnosis; the factors which



show the kind of patient who is sick; the factors upon which a symptomatic or other prescription is based, and finally the factors which lead us to regulate the patient's method of living. To obtain this ideal totality is a great labor, or would be such if its results did not bring pleasure to the worker. Very few succeed in becoming ideal workmen in this field. As a result we have long since noticed that good diagnosticians are apt to slur *materia medica*, and good *materia medicists* are apt to slur diagnosis.

The arguments against Michiganizing Ohio are the same ones as were applicable at Ann Arbor. The homœopathic hospital on the Ohio University campus is the leading hospital of our school in the State of Ohio. It is maintained by the Commonwealth, under the patronage of the University authorities. It is doing noble work; it is relieving human suffering, and it is affording clinical instruction to many students. The patients who come to it do so because they are optimists in homœopathy; they believe in efficient drug therapy as opposed to therapeutic nihilism on the one hand, and the drugless cults on the other. To wipe the Homœopathic Department of the University of Ohio and its hospital out of existence is certainly wrong.

Furthermore, it must be considered that there is a contract between the State, as represented by the University of Ohio, and certain colleges and their alumni; there is also a contract between the students now in training and the University authorities. These contracts cannot be regarded as mere scraps of paper to be destroyed at the will of the one side sure to have the physical power of committing such a crime. Some eight years ago a certain gentleman in Europe spoke of a contract as a mere scrap of paper, concerning which it was very foolish to go to war. Consequences to that gentleman are well-known at the present day.

We have on numerous occasions expressed the uncertainty of attributing motives; a person's actions may be well defined and wrong, but those engaged may do so by reason of different motives, some selfish, some unselfish. The Ohio attack will probably be promoted by several factors or groups, each having its own particular motive. One will claim altruism, that of making all mankind, that is the medical profession, as one. This is the argument that will appeal to the layman. A second grouping is distinctively antagonistic to the

homœopathic school; it is organizing to wipe that school of medicine out of existence. It has tried sniping, which has been more or less effectual. There being few of us now exposed to such Indian bush warfare, it now remains for them to come out and make an organized attack, for the repulse of which we must make preparation.

Why pen the above editorial when no attack has as yet been organized, so far as we can see on the surface? Why bother about Ohio in particular; why not mind our own business; why not let the other fellows alone? These various questions, of course, will be answered according to the point of view of the individual who reads them. Those who are doing wrong, or organizing a concealed attack wish to be let alone. So far as Ohio is concerned it simply is representative of a prosperous homœopathic community, doing good work, improving year by year. It is representative also of many other homœopathic centres, therefore, while we are talking for Ohio we are talking for Pennsylvania, New York, Massachusetts and elsewhere. The principles to be maintained in Ohio are the principles to be maintained in other localities. The Cleveland Academy of Medicine has given a very neat hint, and to prove its interest (?) in homœopathy and homœopathic practitioners, it prints at the bottom of the page the advertisement of a well-known homœopathic sanitarium, which we are sure has been done without the approval of the owner or owners thereof. The whole page, talking friendship, is a hint of anything else. We think, therefore, that our words are opportune, "In times of peace prepare for war;" keep our fortifications intact, and we will probably not be forced to fire a gun. The Ohio men themselves are fully alive to the situation, and are already active in the most efficient manner, that of raising an endowment for the Homœopathic Department of the University. We understand that they are doing very well. Let us hope they will succeed; let us hope also that each individual man in the profession, not only in Ohio, but elsewhere, will do whatever he can, even though that best may be but small. The mild power is great.

## GLEANINGS

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### MEDICINE.

Conducted by CLARENCE BARTLETT, M.D.

**ORAL DIAGNOSIS AND TREATMENT. THE RESPONSIBILITIES OF THE DENTIST AND THE PHYSICIAN.**—Best and Waldron discuss effectively and in detail the thesis that “a complete systematic examination of the teeth and investing tissues, followed by a carefully formulated diagnosis, is necessary before dental operative or restorative work can be successfully undertaken.” They feel that “a permanent record of this examination, and the plan of treatment recommended and followed, should be made; and this record should be kept up-to-date by treatment and progress notes, and filed for future reference.” Best and Waldron present “a system of oral examination, diagnosis, and principles of practice, which place the oral tissues in a healthy condition; and which supplemented by oral hygiene and regular observation, maintain this highly desired condition of the mouth.” The discussion includes the presentation of “a four-page chart of oral diagnosis, oral prophylaxis, and case records,” with an outline of a “plan of treatment.” The responsibilities of the dentist and physician to the patient and to each other are considered directly and frankly. The guiding thought in this paper appears to be expressed in the statements that “the big objective must be preventive professional service,” and that “the problem today is to encourage and promote the practice of prophylactic dentistry.”—*The Journal of Dental Research*, September, 1921.

**COMMERCIAL GLUCOSE AS A PREVENTIVE OF AUTOMOBILE RADIATOR FREEZING.**—Chas. H. LaWall for four winters past, has successfully employed commercial glucose with unquestioned efficacy for this purpose, and with no detrimental results whatever. The amount necessary is between fifteen and twenty percent, or about  $1\frac{1}{2}$  pints of glucose to a gallon of water. The glucose may be mixed with enough warm water to dissolve it completely, and then added to the remainder of the water in the radiator. No further addition or attention is necessary, except to replace the water lost by evaporation. When warm weather arrives the radiator should be emptied, rinsed out, and filled up with plain water. In addition to using the mixture, practically for four years with satisfactory results, La Wall has also performed some experiments to determine the congealing point of such a mixture. He found that it began to get slushy about  $10^{\circ}$  F. above zero, but that it does not actually freeze and harden even at six below. Glucose does not corrode or affect materials, in fact it prevents such action, by virtue of its chemical reducing properties. It seems to have no effect upon rubber, in the dilution used; at least La Wall has never had to replace any rubber hose connections. The inexpensiveness of glucose and the freedom from the annoyance of constantly having to replace a volatile substance, such as alcohol, are unquestionable advantages.—*American Journal of Pharmacy*, February, 1922.

**THE PREVALENCE OF FREE HYDROCHLORIC ACID IN CASES OF CARCINOMA OF THE STOMACH.**—Hartman, (*Amer. Jour. Med. Sc.*, February, 1922.) compiled statistics from the Mayo Clinic, relative to the finding of hydrochloric acid in the gastric contents in cases of gastric carcinoma. Achlorhydria is so frequently found in cases of carcinoma that it has been looked upon as a sign of the presence of the condition. Fractional analysis of the stomach contents has somewhat changed this view. Hartman found that achlorhydria is present in a little less than one-half of the cases of carcinoma of the stomach. Normal or hyperacid values can be expected in more than one-fourth of the cases. These values represent the highest reading obtained by a fractional analysis.

**THE EFFECT OF A MASSIVE DOSE OF LUMINAL.**—J. B. McNerthney reports a case in which 75 grains of luminal were taken at one dose by a patient, a woman aged 30, a sufferer from epilepsy. The attacks were recurring, as a rule, from one to three times daily; occasionally there would be a period of four to six days without a seizure. Very shortly after taking this large dose of luminal she became drowsy, with continuous yawning. She was not seen by the writer until three-quarters of an hour later. The stomach was emptied by the tube, but it may be taken for granted that by that time all the luminal had left the stomach. The patient remained in profound sleep for eighty hours, then gradually assumed her usual state of mind. During all this time her respiration and pulse seemed slightly changed from normal. Eight months have intervened since taking this massive dose of luminal, and there has been no appearance of the attacks. In closing the author suggests that luminal is probably the safest of all preparations for producing sleep without danger to respiration or circulation. He believes also that it will find a wide range of application in toxic goiter, in which affection he has used it with excellent results many times. —*Therapeutic Gazette*, Feb. 15, 1922.

**TRAUMA AND SYPHILIS.**—Dr. I. Harrison Tumpeer, associate professor and head of the department of paediatrics of the post-graduate school of Chicago, who records two personal cases, quotes several examples from recent literature illustrating the action of trauma in exciting active lesions on the predisposing soil of syphilitic infection. It is well known that syphilitic patients have a marked tendency to fractures, this being due, as Coues has shown by X-ray examination, to the presence of old periostitis. The tendency of gummata to occur at the site of repeated traumatism has been best exemplified by Lacapere and Laurent, who treated 40 cases of gummatous lesions in the dispensary at Fez, Morocco. Fourteen of these were on the forehead, this localization being explained by the Mohammedans' custom of prostrating themselves on the stone floor of the mosque five times a day with their brow in contact with the floor from 10 to 20 minutes at a time. Some cases of general paralysis have been acutely precipitated and others adversely influenced by cranio-cerebral injury, which permits the spirochaetes to invade the brain tissue by causing vascular injury and brain destruction, followed by gliosis and nerve-cell sclerosis. The cases reported by Dr. Tumpeer occurred in a half-sister and brother. The girl, aged 15, with hereditary syphilis possibly of the third generation, developed epileptiform seizures and mental disturbance after a head injury which produced coma, while her half-brother, aged 10, developed primary

optic atrophy after a similar trauma, and the healing of a fracture caused by the same trauma was much retarded.—*Journal of the American Medical Association*, January 21, 1922.

**ULNAR NEURITIS.**—Buzzard presents an interesting review of the different varieties of traumatic and toxic ulnar neuritis. The first class of cases is one in which there is no obvious anatomical feature to account for the trouble, and in which class the cause is almost invariably an excessive use of the hand and arm in a flexed position. He instances one excellent example in the case of a young woman who is a 'cello player. It is possible for very little over-exertion to produce an ulnar neuritis if the arm is in a faulty position.

When the arm is maintained in faulty position during a prolonged illness with an infectious disease, the combination of toxæmia and posture is capable of producing quite severe grades of ulnar neuritis. The author instances as diseases capable of thus acting, the various acute infections, glycosuria and gout.

The third group of cases presents some anatomical peculiarity, as for example, a history of severe injury to the elbow, with formation of callus or fibrous adhesions; a case in which the groove for the ulnar nerve is very shallow, and in which, when the elbow is passably flexed the nerve can be felt to slip out of its groove and to lie in an exposed position over the inner condyle. These people may escape from any serious consequences of their anatomical peculiarity unless circumstances necessitate the more or less strenuous continued employment of their arms.—*The Lancet*, February 18, 1922.

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## PEDIATRICS.

Conducted by C. S. RAUE, M.D.

**EGG YOLK IN INFANT FEEDING.**—During the last 2 years, DeSanctis has used egg yolk as an adjunct in difficult feeding cases. He uses it as early as the second month in those infants which are not gaining upon their maximum caloric requirements. He cites several cases which received 65 calories per pound per day, were not vomiting and were having normal stools and yet failed to gain in weight. Upon adding the yolk of a soft boiled egg to the formula the infants began to gain 8 to 12 ounces weekly and the general condition was much improved. These babies were getting from 1 to 2 ounces of orange juice a day before the egg yolk was given. In giving the egg yolk to infants, the fat soluble B vitamine is added in considerable amounts, and it rarely causes a gastrointestinal upset.—*Archives of Pediatrics*, February, 1922.

**THE ANTISCORBUTIC PROPERTY OF FRUITS. II. AN EXPERIMENTAL STUDY OF APPLES AND BANANAS.**—By Givens, McClugage and Van Horne. These experiments demonstrate that the raw apple and the raw banana are antiscorbutic agents. However, if either of these foods is subjected to any considerable temperature treatment, such as ordinarily employed in preservation by desiccation or canning, the amount of antiscorbutic vitamine in the original raw material is markedly reduced if not entirely destroyed.—*American Journal of Diseases of Children*, March, 1922.

**A DIETARY CONSIDERATION OF ECZEMA IN YOUNGER CHILDREN.**—O'Keefe states that the fats are a factor in a certain proportion of cases of eczema, and the carbohydrates also are to be reckoned with, but the proteins seem to be the essential element in the causation of the great majority of these cases in infants and children. In bottle fed and older children showing sensitization to one or more of the common food proteins the aim of treatment is to eliminate, when possible, the offending protein. When this is not practicable it is necessary to secure as thorough a gastric digestion of the protein as is possible. This is sought by careful regulation of the diet in order that it may be proper for the child's age and digestive powers. Any factor in the diet which interferes with thorough and complete digestion of the protein should be eliminated. Of the breast fed infants in the author's series, more than 60 per cent. showed protein sensitization. Of these, 40 per cent. showed a positive reaction to egg proteins, 39 per cent. to cow's milk proteins, 5 per cent. to oat, and about 2 per cent. to wheat. No patient showed sensitization to human milk proteins and none of the mothers gave a skin reaction to the protein to which her child responded. Therefore the breast milk in these cases contained a foreign protein which the child ingested and absorbed unbroken, and sensitization finally resulted. Of this sensitization the eczema was a manifestation. The treatment of the breast fed infant is to remove the offending protein from the mother's diet.—*Journal of the American Medical Association*, February 18, 1922.

**THE ANTISCORBUTIC VALUE OF DEHYDRATED FRUITS.**—Eckman's experiments show that the only one of the dried fruits tested that contains sufficient antiscorbutic vitamin to maintain the life of a guinea pig when not fed to excessive quantities is peaches. Of this fruit it appears that 4 gm. a day, although insufficient to prevent scurvy, delays it for three or four months.—*Journal of the American Medical Association*, March 4, 1922.

#### DERMATOLOGY.

Conducted by RALPH BEENSTEIN, M.D., F.A.C.P.

**EXTERMINATION OF HEAD LICE.**—In the treatment of head lice all medicaments used by Albrecht Hase are either fluids or salves. Ordinarily the head is rubbed with the preparation and then wrapped in cloths or bandages. Aside from the fact that the application of a head bandage requires practice and the aid of a second person, it has numerous other disadvantages. It absorbs the greater part of the substance used, it soon becomes saturated, it is easily loosened, and the odor is objectionable. For this reason the author has made a special cap for use in treating head lice, which is cheap and fulfills the necessary requirements. The cap is cut to cover the scalp and is made of a paper which is gas and water-proof, so that it does not become saturated with the drug and there is no unpleasant odor. It weighs only 20 gm. and does not heat the head as the bandages do. The paper is fastened to a frame of a strong bandage material which is used continuously while the paper cap may be burned and replaced as required.—*Munch. med. Wchnschr.*, Sept., 1921.

**FOLLICULAR SEBORRHOEA.**—Among the ordinary eruptions seborrhea is unique in developing from such minute lesions as those formed in the

follicular orifices, and it is difficult to understand how such small organs can invade such considerable zones. Oily secretions closely following disturbances of the internal organs, congestion, hyperacidity and plethora, seem to be excessive in one form of the disease. The opposite variety—the dry form—is seen in persons of impaired constitution, either hereditary or acquired, or among the aged or in anemia following serious constitutional diseases. Follicular seborrhoea is characterized by the formation of crusts of a dirty appearance having a greasy feel even in the dry form. When these crusts are detached, the lower surface presents minute points which correspond with the follicles. The disease is sometimes mistaken for prurigo, eczema, psoriasis or itch. The scales of psoriasis are thick and white and occur in circumscribed patches, while eczema is accompanied by itching and weeping. Prurigo and itch can also be distinguished by itching and by absence of the needle-like points. Treatment has not given brilliant results; an infinite number of pomades have been employed and the use of vaccines has been suggested. Some cases recover spontaneously while others extend over years and in some instances develop eczema.—*Sicilia, Gac. med. catalana, Barcelona, July 31, 1921.*

**GRANULOMA CAUSED BY INDELIBLE PENCIL.**—According to Max Ballin and Harry C. Saltezstein, indelible or colored pencils are made from a mixture of graphite, alum, kaolin and an anilin dye. Anilin and the other coal-tar products are intense local irritants. All workers in coal-tar and anilin suffer from eczema and acne and frequently from papillomas of the forearms and hands. Carcinoma of the bladder is also quite frequent among workers in dyes. Ophthalmologists know that a particle of copying pencil in the eye soon causes chemosis, purulent inflammation of the cornea and staphyloma. The inflammation is chemic and not bacterial as the pus is sterile. Half an hour after introducing a piece of indelible pencil into the subcutaneous tissue of the abdomen of a rat or guinea-pig, edema of the skin develops, spreading in all directions and frequently covering half of the abdomen. After a few hours this disappears. In twenty-four hours a cystic cavity forms around the indelible mass which is dissolved in the liquid contents of the cyst; after four or six days the cyst is filled with a necrosed mass. The necrosis extends to the surrounding tissues as far as the dye has penetrated. A leukocytic infiltration is set up and adhesions develop. In the periphery, giant cells appear, but the process differs from the ordinary infective case in that there is little secretion and sphacelation of the tissues; it differs from the ordinary reaction to a foreign body in that the necrosis is more extensive.—*Gac. med. catalana, Barcelona, July 31, 1921.*

**THE USE OF PUMICE STONE IN THE TREATMENT OF GRANULOSIS.**—For several years, Schmidt has used pumice stone not only in granulosis but in simple folliculitis and small chalazion with good results. He chooses a small stick, 8 cm. long, which is made in three grades—fine, medium and coarse. The diseased connective tissue is rubbed with this, the finer the pumice stone the less severe the friction, which amounts to mild massage. The sticks are easily sterilized and after being scraped with a knife or a file, are ready for use again. They are specially helpful in the treatment of granulosis in conjunction with Knapp's rollers or Kuhnt's expressers.—*Munch. med. Wchnschr., September 16, 1921.*

## EAR, NOSE AND THROAT.

Conducted by JOSEPH V. F. CLAY, M.D., F.A.C.S.

**LARYNGEAL TUBERCULOSIS FROM THE STANDPOINT OF THE PULMONARY SPECIALIST.**—The lung specialist should be familiar with the use of the laryngoscope and the laryngoscopic pictures as this is an essential part of the complete examination of the respiratory system. Failure to recognize the early laryngoscopic changes means the loss of valuable time. When such apparent symptoms as hoarseness, dysphagia, or aphonia are present to call attention to the larynx, the condition is not early but has advanced to a point offering little success in treatment. The average laryngologist has little chance to observe the early changes because of the absence of symptoms calling for examination of the larynx. This author believes that thirty per cent. of tubercular subjects present laryngeal involvement.

The changes observable are catarrhal, infiltrative, ulcerative and tumor formation. Pallor, while frequently found, is not a reliable diagnostic feature and must be accompanied by other suspicious signs. When a unilateral catarrhal change is patchy and persistent, it has distinct diagnostic significance. Grayish wrinkling and thickening of the mucous membrane of the posterior commissure is a suspicious sign and in the tuberculous is an early step in the development of more definite laryngeal involvement. Infiltrations are more diagnostic and the commonest site is the posterior commissure either central or lateral. Such infiltration may break down and ulcerate, localize or spread to the cord; or it may develop abundant granulations. When the infiltration is eccentric it is apt to involve the posterior insertion of the true cord. Thickening, enlargement or redness of an arytenoid on one side or the other at once excites suspicion. Infiltration or ulceration of the aryepiglottic fold are not observed early. A red localized infiltration of the true cord, not involving the entire cord, is distinctly tubercular. Infiltrations of the false cords on one side or the other or both, are of great diagnostic value. The epiglottis is not early involved. Small thickenings upon the edge are more common and earlier findings than thickenings in the center and on the posterior surface.

Early ulcerations show themselves either upon the center of the posterior commissure or at the insertion of the posterior end of the cord or localized on a small area of the free edge of the cord. The mouse-like eating out of the edge of the cord is a later manifestation.

From the base of the tuberculous ulcer may arise either large rounded masses, pointed pyramidal masses or many pointed granulations in the posterior commissure. Fibroid changes frequently take place with shrinking, resulting in a husky voice, which may persist for a long time and eventually clear up. The numerous pointed granulations are apt to break down, undermine and spread. Ulcers upon the upper surface of the false cord are not very amenable to treatment. Ulcers of the epiglottis are especially trying and rebellious and amputation offers the best result. Ulceration of the free edge of the cord will respond to absolute silence. Horse shoe shaped ulcers including the cord and posterior commissure offer a bad prognosis.

Tumor formation is not an early manifestation except the small long pointed subglottic, protruding like a small nipple. This is slow in growth and rather favorable.



The author expresses the opinion that the laryngologist does not have his cases under sufficiently close observation and supervision and that in this respect the lung specialist has the advantage. If cases of incipient tuberculosis of the larynx were recognized early and placed under proper living conditions the general view as regards the poor prognosis of this condition would undergo a modification.

Very active early local treatment in early cases is usually contraindicated. He advocates local cleansing with mild alkaline spray with mild astringent when congestion is marked, oil sprays containing menthol and eucalyptol where stimulation and healing is desired. Iodoform powder insufflation is very useful in infiltrations. Lactic acid glycerine or formaldehyde glycerine produce brilliant results in ulcers.

Attention is directed to the effects of the tonsil operation and intralaryngeal operations. The writer believes that much dissemination is produced by these procedures.

As tuberculosis of the larynx is so frequently seen in the tuberculous, the laryngologist's and the lung specialist's work are interwoven and the writer exhorts a closer exchange of ideas.—*C. L. Minor, Annals of Rhinology, Laryngology and Otology, December, 1921.*

**CLIMATE IN THE TREATMENT OF LARYNGEAL TUBERCULOSIS.**—Edson. This writer considers tuberculosis of the larynx as constantly secondary to an active tuberculosis of the lungs and the extent and character of the primary lesion should determine the choice of the climate best suited for the patient. A careful consideration of meteorologic conditions should be made in choosing a location for the patient. The underlying principles guiding us should be: (1) there is no specific climate for tuberculosis, (2) that the disease may heal in any climate, (3) that some climates offer the patient a better opportunity to make full use of the three requirements for a cure—out-of-door life, increased nutrition and rest. A climate that is mild without extremes of heat or cold and especially cold, freedom from sudden changes of temperature, dampness and high winds and dust. If one would avoid disappointment it is necessary to make a careful consideration of the patient's needs, his means, and advantages to be gained from a change in surroundings.—*Annals of Rhinology, Laryngology and Otology, December, 1921.*

**THE SURGICAL TREATMENT OF LARYNGEAL TUBERCULOSIS.**—Ley. Laryngectomy and tracheotomy have now few adherents. Of the intralaryngeal procedures, incision, excision, curettage and galvanocautery are familiar. Localized or definitely circumscribed lesions, the so-called tuberculoma, are the ideal indications for surgical interference but cases are seldom observed sufficiently early, when such conditions exist. Incision is of little value. Excision of tubercular masses is quite a common practice especially in the pale, sluggish, irregular, nodular masses. Amputation of the epiglottis should not be considered as a simple procedure. Hemorrhage and cicatricial contraction must be kept in mind. Frequently the granulations about the under surface of the epiglottis yield readily to galvanocautery. Curettage is limited to surface cleansing. Galvanocautery is generally favorably recommended but should be used only in skillful hands and applied only to small areas at each operation. It is applicable to a very large percentage of cases for both curative and palliative purposes and to

nearly every stage of laryngeal tuberculosis.—*Annals Rhinology, Laryngology and Otology*, December, 1921.

**GENERAL MEASURES IN THE TREATMENT OF LARYNGEAL TUBERCULOSIS.**  
—Brown. Laryngeal tuberculosis is rarely a primary disease. It occurs in about 25 per cent. of cases, more frequently found in men than in women and is the most frequent complication of pulmonary tuberculosis next to enteritis and colitis. As the pulmonary lesion advances the incidence increases to 45 per cent.

The treatment of tuberculosis is the same no matter what organ is involved. In the case of laryngeal involvement rest is of prime importance—absence of all sound and resort to pad and pencil. The response of laryngeal involvement is in direct proportion to the improvement in the pulmonary lesion. The local treatment is important but the general rest, hygiene and dietetic treatment is paramount. Anaesthesin and orthoform insufflation are recommended. The Yankauer dropper is an admirable instrument for applying medicaments to the larynx and is safe and effective in the hands of the patient. Menthol 1 per cent. in oil is an excellent application. Freudenthal's emulsion of orthoform and menthol is also efficacious. Particular note is made of the occurrence of tuberculosis of the larynx in pregnancy and this writer deems it inadvisable to permit pregnancy to advance in these cases. The concluding remarks of this writer urges a co-operation of the lung specialist and the laryngologist.—*Annals Rhinology, Laryngology and Otology*, December, 1921.

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#### SURGERY.

Conducted by J. D. ELLIOTT, M.D.

**CLINICAL STUDIES IN FUNCTIONAL DISTURBANCES.**—Study I. Functional Thyroid Tests as an Aid to Differential Diagnosis: Russell, Millet and Bowen present a clinical and functional study of eighty-five cases with symptoms either definitely attributable to disturbance of the endocrine glands, particularly the thyroid, or not explainable on any other basis. The tests employed were the basal metabolism, glucose tolerance and adrenalin sensitivity and the cases were divided into four groups: hyperthyroid, hypothyroid, fatigue and a large miscellaneous group.

Clinical methods were found satisfactory in the diagnosis of frank hyperthyroidism, myxedema and to a lesser extent in the third and fourth groups. In apparent hypothyroidism—not myxedematous in type, however—the ordinary clinical methods usually failed to suggest the probable diagnosis. In such cases the diagnosis was made entirely on the basis of a decreased basal metabolic rate, together with definite improvement after the administration of thyroid extract.

Of the functional tests used the basal metabolism was the only one to yield uniform results, which could be reasonably interpreted in association with the clinical findings and subsequent progress of the cases studied. Both of the other tests yielded positive results in almost all cases of hyperthyroidism, but the frequency of similar responses in a variety of other conditions, in some of which the diagnosis of hyperthyroidism was not even a remote possibility, necessarily detracts from their value as specific tests of thyroid function.

Special emphasis is laid on three points brought out by the data presented. These are: (1) That there are some cases showing definite hypersensitiveness to adrenalin and intolerance to glucose who tolerate thyroid extract well and improve under its administration: (2) that it is dangerous to attribute much importance to a positive adrenalin response in the diagnosis of suspected hyperthyroidism; and (3) a corollary of the point just mentioned that an occasional case of classical exophthalmic goiter showing marked increase of the basal metabolic rate may exhibit no hypersensitiveness to adrenalin.—*Amer. Jour. of the Med. Sciences*, December, 1921.

**AN ANALYSIS OF ONE HUNDRED AND EIGHTY-TWO CASES OF CANCER OF THE STOMACH WITH SPECIAL REFERENCE TO THE INCIDENCE OF PRE-EXISTING ULCER.**—Taylor and Miller have carefully studied and tabulated their findings in a series of 182 cases of gastric cancer. Their conclusions follow: 1. A history suggestive of pre-existing ulcer was obtained in only 17 per cent., and it seems probable that the true incidence of such a preceding lesion does not exceed these figures. 2. Reference of epigastric pain to the back occurred in 29 per cent. of the pyloric cancers, and of those with reference of pain to the back 80 per cent. had involvement of the pylorus. 3. The age incidence for the beginning of "ulcer" symptoms in the ulcer-before-cancer cases had its apex two decades later than did a series of 79 cases. This suggests either that ulcers first giving rise to symptoms in middle life have a far greater likelihood of becoming malignant than do ulcers generally or that the ulcer-before-cancer cases are really malignant from the beginning. Either of these considerations justifies and indicates prompt and radical surgical treatment of all patients first developing symptoms suggestive of ulcer after forty years of age. 4. The average free hydrochloric acid and total acidity findings in the pyloric cancers was not abnormally low (15.5 and 45), but there was evidence of definite retention. There was also retention in some of those with lesser curvature involvement. When the cancer was situated elsewhere retention did not occur, but the acid figures were distinctly low. 5. Roentgen study gave a positive diagnosis in 96.8 per cent., and in but one case was it misleading. 6. At operation the tumors were shown to be somewhat more extensive and more often to involve the lesser curvature than the Roentgen ray suggested. 7. Of the patients with gastric cancer who now come to the surgeon about one-third are given a chance of cure by radical operation, one-third are treated palliatively and for one-third nothing can be done.—*Amer. Jour. of the Med. Sciences*, December, 1921.

**PRE-OPERATIVE PREPARATION OF PATIENTS WITH OBSTRUCTIVE JAUNDICE.**—Walters studied the records of patients who had obstructive jaundice at the time of biliary operations and who died in the Mayo Clinic during 1918 to 1920, inclusive. Fifteen of twenty-nine such patients, more than fifty per cent., died of intra-abdominal hemorrhage, or at least had a large amount of blood in the peritoneal cavity, while but six per cent. of those without jaundice died from such hemorrhage. These deaths occurred slowly, not rapidly as would be expected from bleeding from a large vessel and in no instance could the exact source of hemorrhage be located. The study showed that post-operative hemorrhage occurred in most cases when the coagulation time of the venous blood was longer than nine minutes.

Experiments and the result of pre-operative treatment in fifteen patients recently operated, all of whom recovered, show the coagulation time can be reduced greatly and the toxicity diminished in patients with obstructive jaundice by daily intravenous injections of 5 cubic centimeters of a 10 per cent. calcium chloride solution for a three day period. Carbohydrates and glucose prevent disintegration of body proteins when the patient is in a state of toxemia. Large quantities of water aid in eliminating toxic bile pigments and increase the body fluids. It is self evident that in operations for obstructive jaundice the various steps of the operation should be carried out with the utmost gentleness, care being taken not to traumatize the tissues, especially of the liver, and for this reason cholecystectomy should not be performed at the primary operation if it can be avoided.—*Surgery, Gyn. and Obstetrics*, December, 1921.

**THE RELATION OF ACROMEGALY TO THYROID DISEASE: WITH A STATISTICAL STUDY.**—Anders and Jameson have made a very thorough review of the literature of acromegaly and have tabulated their findings. They report two personal cases in detail. The cases presented reveal an unexpected frequency of associated disturbance of the thyroid function in cases of acromegaly, 33 per cent. It is highly probable that in many instances of pituitary disease with its usual syndrome the coexistence of thyroid alterations and symptoms resulting therefrom were overlooked, as was true of one of the two cases which were reported by the authors. The investigations indicate that hypothyroidism is more commonly associated with acromegaly than hyperthyroidism, and that those combined cases which manifest myxedematous features are decidedly improved as the result of the use of thyroid preparations. It follows that the recognition of the indications of hypothyroidism in connection with acromegaly is a matter of the utmost importance. In cases of acromegaly in which merely suspicious features of either hypo- or hyperthyroidism exist it is strongly urged that the metabolic rate be determined. The approved sugar tolerance test should be carried out in all cases of acromegaly with a view of determining the state of both the pituitary and the thyroid function.—*Amer. Jour. of the Med. Sciences*, February, 1922.

#### PATHOLOGY.

Conducted by JOHN G. WURTZ, M.D.

**BACTERIA ON SUBSIDIARY COINS AND CURRENCY.**—Ward and Tanner (*Amer. Jour. Med. Sc.*, CLXII, No. 4, October 1921, 585) undertook an investigation to determine the numbers and types of microorganisms on coins and currency in general circulation. They cite the works of others along this and similar lines and tabulate their findings to conclude that there is but little basis for the belief that coins bear any close relation to the spread of diseases. Spore forming organisms were found to be the only ones that thrived for any considerable time on coins. In their passages from person to person the coins undoubtedly come in contact with acids and alkalies resulting in the formation of certain metallic salts which are detrimental to bacteria.

**THE TOTAL NONPROTEIN NITROGEN CONSTITUENTS OF THE BLOOD IN CHRONIC NEPHRITIS WITH HYPERTENSION.**—Williams (*Arch. Inter. Med.*,

28, No. 4, October 1921, 426) studied eighty-eight cases of this kind, after dividing them into three groups. All signs and symptoms associated with chronic nephritis with hypertension were considered with the blood findings. Chronic nephritis with hypertension and uremia gave a marked increase in the amount of the nonprotein nitrogen in the blood and a low phthalein excretion. With a moderate degree of hypertension the nonprotein nitrogen retention and renal function deficiency were less. He found that the presence of albumin and casts in the urine is not necessarily diagnostic of nephritis nor is their absence indicative of the nonexistence of the disease.

#### ROENTGENOLOGY.

Conducted by WALTER C. BARKER, M.D.

**RADIATION IN THE TREATMENT OF LEUKEMIA.**—Dr. Albert Soiland reports his experiences in the treatment of various forms of leukemia and Hodgkins disease with radium and X-rays. There is a very rapid improvement following irradiations in these cases but recurrence is the rule. The longest duration without recurrence was eight years. The average time is three to four years when recurrence and death occur. The author advises treating the body cavities even though there is no evidence of lymphatic involvement. All the lymphoid tissue in the body should be irradiated. Radium is of value where it may be applied to local lymphatics, but the X-ray is preferable for treating the body cavities. The cases do just as well when treated with the X-ray as when the combined treatment is used.—*J. Radiology*, December, 1921.

**A REVIEW OF THREE YEARS WORK AND ARTICLES ON PNEUMOPERITONEUM.**—At the request of the president of the American Roentgen Ray Society, Dr. Case has summed up the present status of the artificial pneumoperitoneum. Of two hundred and twenty-three questionnaires sent out, twenty-one Roentgenologists responded that they had sufficient experience with this method of examination to answer the questions.

It was generally agreed that the procedure should be carried out as an aseptic surgical operation. That no patient should be examined by this method with active cardiac or respiratory lesions. Furthermore, that the amount of carbondioxide and oxygen mixture injected, should be known. The gases should be introduced slowly and the condition of the patient carefully observed.

While the discomfort to the patient in many cases may be psychic, some patients do suffer pain as the result of errors in technic, and particularly so, when peritoneal adhesions are present.

Among the accidents reported were three cases of puncture of the intestines; one of these was done under fluoroscopic control and the injection stopped as soon as the lumen of the intestine was seen; another case showed the outline of the colon on the Roentgenogram, but no gas in the peritoneal cavity; the third case experienced so much pain that the injection was stopped. There was one case of puncture of a massenteric vessel, the hemorrhage being noted at operation. A case was reported of puncture of the urinary bladder, and one of puncture of a hydroureter. There were several cases of superficial emphysema. Two cases were reported of cardiac failure with profound syncope which did not prove fatal. Both of these

cases gave a history of cardiac lesions, although they seemed to be perfectly compensated at the time of the examination.

Four deaths have been reported; one followed the injection of oxygen into the spleen; another was due to septic peritonitis in a carcinoma patient, and two others were probably due to air-embolism.

The author believes that this method should not be used unless the diagnosis cannot be established by the usual Roentgenographic methods, including the use of the Potter-Bucky diaphragm, and after decision not to make the exploratory operation.

The indications for the use of the artificial pneumoperitoneum are: Obscure abdominal and retroperitoneal conditions, certain lesions of the kidney and their differentiation from paravertebral masses, transuterine insufflation to determine the patency of the Fallopian tubes, and in cases of abdominal ascites.—*Am. J. of Roentg.*, Dec., 1921.

**DETERMINATION OF DENTAL FOCAL INFECTION BY MEANS OF THE RADIOGRAM.**—Hubeny thinks that the recognition of dental infection as a causative factor of diseased processes, marks an epochal period in the history of medicine. The author gives a brief historical sketch covering a period of over 200 years, reviewing the most important developments in the science of medicine which have led to the recognition of infection as an etiological factor in disease.

Hubeny states that general decalcification and destruction of bone is a more prolific source of disseminating disease than those infective processes attended by osteo-plastic formation. He believes that when pathological processes are present about the roots, or when decay has advanced so far as to make devitalization necessary, the teeth should be extracted. His conclusion is that there should be cooperation between the physician and dentist to educate the lay people to consult the dentist before decay has extended to the point of devitalization.—*J. Rad.*, Dec., 1921.

*Editor's Note.*—The radical viewpoint expressed in this article, and held by some dentists and physicians, will serve a useful purpose if it stimulates research work among physicians to determine the causative factors of decay in the teeth. Good will be accomplished if the diet in the infant, child and young adult, is supervised by the physician; and if the proper balance is maintained between the function of the thyroid and other glands of the endocrine system. The dentist can do much by giving proper instructions in the care of the teeth and in finding a material to replace decay which will have the same ratio of heat conduction as the natural tooth. It is far better to surgically devitalize a tooth than to fill with a heat conducting material, a cavity reaching near to the pulp chamber. In such cases the nerve is often devitalized by alternate exposure to heat and cold, and remains in the tooth to putrefy. This will cause more systemic disturbance than surgical devitalization.

If there is no decalcification of the alveolar process about the root and the periodental membrane is intact, a tooth may be surgically devitalized and will give then, better service and be less dangerous to the health of the patient than an artificial tooth or bridged tooth, provided it is periodically observed by Roentgen ray examinations.

**RADIOTHERAPY OF UTERINE CANCER AT THE GYNECOLOGICAL CLINIC AT ERLANGEN.**—A. Beclere, (*Journal de Radiologie et d'Electrologie*, Jan.,

1922, 5, 10.) Seitz and Wintz, gynecologists at Erlangen, after long experience in treating cancer of the uterus with surgery, radium and Roentgen ray therapy, have finally employed a technic of using Roentgen ray alone. They use a spark gap of thirty-five to forty centimeters in length, and a filter of  $\frac{1}{2}$  millimeter of zinc or 11 millimeters of aluminum. The quantity for the Roentgen ray is measured by an ionization chamber placed upon the skin or in the vagina. The erythema dose has been determined by their iontoquantimeter, to be thirty-five discharges. The cancericidal dose of the Roentgen ray is fixed at thirty-seven discharges of the iontoquantimeter, or 110 per cent. of the erythema dose.

This dose is given to the uterine cervix by cross firing through three openings anteriorly, three openings posteriorly and one opening through the vulva. The full amount is given at one sitting with a focal distance of twenty-three centimeters and the portals of entry six by eight centimeters. The time required for the treatment is from three to four hours. It is necessary to give morphia, to which, in some cases, three milligrams of scopolamine are added.

The after effects vary with different patients. Some are without discomfort, other than a sense of fatigue for some days. Many have nausea and vomiting and frequent diarrhetic stools, mucoid and sanguinolent in character. Blood examinations show a great destruction in numbers of the white blood cells, especially the lymphocytes and also of the red cells. The white cells soon regenerate, but a quarter of the whole number of the red cells may be destroyed and require six to eight weeks to regenerate; so the treatment must not be repeated under six weeks. Some patients cannot stand more than one treatment, the second one causing irreparable depletion of the blood stream and death following from cachexia.

In the early series of cases, radium was employed with the Roentgen ray. One hundred to one hundred and fifty milligrams of radium bromide were used in a sheath of nickel plated brass for twenty-four hours in the cervix. The combined treatment was discontinued because there was no perceptible difference in the end result. Macroscopically, the tumor disappeared more quickly when radium was used, but microscopically the appearance was the same without it.

To achieve unquestionable success, it is necessary to irradiate an extensive area, including the surrounding lymphatics. This cannot be done at one time, so that six weeks after the first treatment, a second one is given to the right parametrium through six portals of entry; and six weeks later, the left parametrium is treated through the same number of openings. This is known as the Roentgen-Wertheim method of treatment. Of twenty-four cases treated since January 1st, 1918, twenty-three cases are living and well.

Whether these results are temporary or permanent, time only will tell. It seems that the use of radium is too limited. Regaud has improved the technic of radium by using five foci, three of which are in the uterine cavity and two in the cul-de-sac. Heimann has adopted the technic of Seitz and Wintz and reports a series of 55 cases. Of these 34 were inoperable, 15 operable and 6 recurrences. Of these thirteen were without signs of cancer, and one was of the inoperable class.

# THE HAHNEMANNIAN MONTHLY.

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MAY, 1922

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## UNDERGRADUATE TEACHING OF OTOLOGY

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(Read before the Homœopathic Medical Society of Pennsylvania, Sept. 13, 1921.)

THE object of this paper is to promote discussion looking to the betterment of our methods of teaching otology. In the course of our paper it is our intention to bring out the methods as adopted in the Hahnemann Medical College of Philadelphia.

During the many years in which we have been teaching this subject, we have endeavored, in the time allotted each year, to give to the undergraduate student as thorough a knowledge as possible of the diseased conditions which the general physician comes in contact with. Despite these efforts to give the student a fair working knowledge of otology, we have frequently been exceedingly discouraged when we have met some of these former students in consultation, to note how little they had carried away with them from our teaching. This was evidenced by the questions asked by them. Such instances brought forcibly to us that something was wrong somewhere. Either the student was wrong or the teaching.

In our earlier teaching we probably attempted to go too deeply into our subject, thereby fogging the student's mind with much that was of little practical value. We now realize that it is impossible, in the few hours given to our subject, to give the student little more than a fair understanding of the more common ear conditions and their treatment, and only such conditions as the general physician could be expected to understand sufficiently to treat.

The question, what we should give the student, and what



should be eliminated, has been the subject of discussion, between my associate and myself, and from year to year we have altered our methods of teaching, after checking up the results of each year's teachings, as gained from oral and written examinations and from contact with the student.

We have at all times laid great stress upon a good knowledge of the anatomy, physiology and pathology, feeling that if the student has a fair knowledge of these subjects, that then he can, by deduction, very frequently reason out for himself the occurrence of conditions and symptoms. We have attempted to prevent the student from learning his subject in a parrot-like fashion, endeavoring rather to give him sufficient basic knowledge so that he would have material from which, through his reasoning, he would gain and retain, the knowledge which we wished him to have.

In our earlier teaching, the only knowledge of anatomy and physiology of the ear which the student got, was given him during the brief time allotted to these in the general courses upon anatomy and physiology in the freshman year. This knowledge was soon forgotten and by the time the student reached his senior year and came to us for instruction in otology, we found that we had nothing upon which to work. We were talking to men who had not the slightest idea of what we meant by the anatomical structures of which it was necessary for us to speak in teaching. Subsequently, through our suggestion, special courses upon the anatomy of the eye, ear, nose and throat were given to the sophomore class. The students were examined upon these subjects in the same year. We found when these students reached the senior year that, while there had been some improvement, not sufficient had been retained for our teaching purposes; that, in order to teach our subject understandingly, we were forced to lose much valuable time in reviewing the anatomy, thereby depriving the student of many valuable clinical hours. We then endeavored to overcome this trouble by impressing upon the sophomore students the necessity for retaining this knowledge in order that they would have a good understanding of the practical work of the senior year. Unfortunately, we could not hold the student accountable for a retention of this knowledge until the senior year, as it was not required by the college curriculum; still we found that the better student, the one who was earnestly attempting to gain a knowledge of medi-

cine, came to us in the senior year having refreshed his memory upon the anatomical teaching of the sophomore year.

At present, our teaching is spread over three years, beginning with the sophomore and ending with the senior year.

In the sophomore year we give a course of lectures upon the anatomy and physiology of the ear. In these lectures we lay a special stress upon those portions of the anatomy which are of practical importance, such as the course and length of the external auditory canal, the position of the ear drum, the landmarks of the drum, the course and structure of the eustachian tube, together with its functions, the middle ear cavity and its highly important intracranial relations, as well as the mastoid antrum and its relations, the course of the facial nerve, the auditory nerve and its acoustic and static functions.

During the course the students are shown series of lantern slides taken from various anatomies and textbooks as well as many original slides made from original dissections. Later the actual specimens are shown and explained. The course ends with a quiz in which we attempt to check up how much the student has learned, while at the same time we fill in where we find that the student has not grasped what we have attempted to give.

In the junior year a course of ten lectures is given upon the ear. The student is impressed with the importance of full and careful examination of the case; he is advised of the necessity of good histories and careful records. We pay much attention to the subjective symptoms feeling that the general physician, on account of his lack of knowledge of the finer objective methods, should have a good understanding of the subjective symptoms and of their great value from a diagnostic and prognostic standpoint. We then take up the functional tests, for both the acoustic and the static functions. The methods of examination and the objective examination are considered only briefly, as these are a part of the senior teaching. The remaining hours of the course are given to the otological diseases, especially those commonly met by the general physician.

In the senior year the students come to us in small sub-sections so that we are in a position to give close individual attention to the student. Each sub-section is given ten hours of teaching. We have systematized this teaching so that a different subject is taken up at each sub-clinic, it being our

wish to cover our subject in a thorough manner. Our assistants are instructed to send, for each day's teaching, the class of cases necessary for that day's work and the entire otological staff is present at the sub-clinics to aid in the instructions. In our earlier years it was the custom to hold five operative clinics and five dispensary hours. We now confine our operative work to one clinic, feeling that the practical dispensary work is of far greater value to the student than is the major operative work. The minor operations, such as incision of the drum, removal of aural polypi, are performed during the course of the sub-clinics. It is a waste of valuable time to perform mastoid operations for the undergraduate student. During the course we study our students carefully and attempt to bring to standard those who are slow in comprehension.

Before each sub-section presents itself, each member of the section receives a letter. In this letter we state that we are endeavoring to give the student a thorough, systematic course and ask him to aid us by reviewing his sophomore and junior lectures, and especially to study carefully, before each sub-clinic, the subject which will be presented upon that day. The result of this during the past year has been encouraging. The students have been interested, they have come to the sub-clinics having read up the subject of the day, so that we can fill every hour with good practical work, feeling that the student is, through his study, in a position to understand what we are talking about.

Realizing the importance of good teachers, we require our assistants to be present at all sub-clinics so that they will become conversant with the methods of teaching. Also, we require from time to time, that the assistants hold the sub-clinics. It has been exceedingly gratifying to note how these men have developed under this system. We feel that all of our men are capable, in the absence of their chiefs, of conducting the work in a thorough manner.

One of our greatest drawbacks in teaching is the student himself. He is prone to look upon otology as a side subject. He slurs over his work and devotes his time to the major subjects. We have overcome this lack of attention by rigid examinations, by evidencing our own interest, by making the teaching as practical as possible and by putting forth every effort to present our subject in an interesting way.

We are now endeavoring to have our course a graded

one, starting with the sophomore year. It would then be a requirement that the student carry the information, acquired in the sophomore and junior years, to his senior sub-clinics.

#### DISCUSSION

DR. J. V. F. CLAY, Philadelphia: It would bespeak very poor appreciation of Dr. Palen's tireless efforts in this direction if one of his students should fail to grasp this golden opportunity to pay him the deserved compliment. We all know that Dr. Palen is a master of his subject and a peerless teacher.

There are several factors which go to make a successful teacher. First, a man must be a master of his subject; second, he must have the ability to impart his knowledge; third, he must be able to view his subject from the students' standpoint; fourth, he must have a personality that is attractive to the student.

If a teacher cannot impart his knowledge his students are little benefited by his knowledge. Too many teachers fail, either through lack of good teaching qualities or through a desire to appear learned by presenting their subjects in an advanced manner so that the immature does not understand. We cannot make these subjects too simple for the undergraduate's mind. This applies not only to medical teachers but to the instructors in colleges and preparatory schools. This latter claim is based upon experience in teaching men who have had college and preparatory school training. Their earlier instruction lacks the necessary simplicity for comprehension so that the student, in order to pass his examinations, crams, in parrot-like fashion, what he has heard in the class room. When a man comes to his senior medical year and has not acquired reasoning along logical lines from basic facts, we are confronted with an almost hopeless task when we attempt to teach medical specialties, simple though we make them.

Our students measure our teaching ability in direct proportion to the amount of useful practical knowledge we give them rather than by the complexity with which we present our subject.

Personality of the teacher and his attitude toward the student cannot be ignored. This is so well appreciated that it scarcely needs more than mention. Suffice it to say that the teacher having a full appreciation for the students' apparently insurmountable difficulties and who evinces a judicious amount of sympathy is bound to enlist the hearty co-operation of the student.

I have gone somewhat into detail upon what might be irrelevant or purely preliminary but having been an undergraduate student not so many years ago, I retain very vivid pictures of some class room scenes.

We cannot be too careful in the selection of our teachers in medical schools. Men should not be chosen as teachers merely because they know something about the subject, or because they are popular in the profession, have financial or political standing, but rather choose them because of real teaching qualifications.

The subject of otology is an exceedingly complex one and requires many years of arduous study and practical application. The amount of this work which should be given to the undergraduate student is exceedingly small. As Dr. Palen has outlined, we believe it wise to give to the undergraduate in the most simplified form, the barest essentials for his work. This we believe prevents confusion, promotes post-graduate interest and study and safeguards the patient and the doctor.

In otology, as in other branches of medicine, the student will do well to thoroughly familiarize himself with the simpler things. We do not feel that it pays to use the student's time in the performance of major operations. Of course, it is important that the student have a good idea of these procedures, but do you expect him to perform them from such training as they receive in the general medical course? I can well remember the many hours which I spent when an undergraduate student watching showy operations upon the brain, the clinic after cataract extractions, and our worthy laryngologist remove tonsils and adenoids. All that we saw was the assistants' hands in the former instance, and a mouth full of blood in the latter. There was a special clinic where we met a man who made no show of his work, but who really tried to give us something that we could understand and use. This man had a dark, dingy little room in the extreme upper floor of the dispensary building. His cases were arranged systematically. Each clinic day he presented in a clear and orderly way a subject that was of interest to the general practitioner. This man was required to hold the attention of thirteen students and many more patients. He did it, and furthermore, he has kept right on doing it, and in addition to perfecting that course, he at the same time is training men to go on with the good work he has started. That indefatigable worker and unselfish man is Dr. Palen.

We who have had the privilege of being undergraduate and post-graduate students of Dr. Palen deeply appreciate his efforts in perfecting the otological course in the Hahne-

mann Medical College of Philadelphia and are enthusiastic in our efforts to support his moves.

DR. G. W. HARTMAN, Harrisburg: I am sure that the alumni of Hahnemann and the doctors in general, appreciate the advancement that has been made in the methods of teaching at Hahnemann during these latter years. It is in the line of necessary progress that these improved methods come. That they have come is a credit not only to the men who arrange the courses, but also to the institution and our profession. We must maintain high-grade qualities. We must prepare to send out men who are well qualified to practice medicine and surgery. The difficulty has been, in the past, as the essayist has said, that too much was expected of the students on the one hand, in that they were left to grope around to find for themselves facts and methods which should have been provided by the curriculum, and that too little was expected of them on the other, in that some could slip through without complete preparation. I was much gratified and edified by the paper and the discussion.

DR. GILBERT J. PALEN, Philadelphia, closing: I appreciate very much the discussion we have had upon this subject for it is one that is very dear to me. I believe that the courses of instruction which are given at the Hahnemann Medical College, of Philadelphia, are better than those of any other medical college of the country. The student comes in direct contact with his teachers and the teachers take a great interest in the student. Anyone who will thoroughly study the teaching methods at Hahnemann will be satisfied that my statements are correct.

Visit the surgical clinics of other institutions and then visit those of Hahnemann. You will find the latter to be equal and in many ways superior. In fact, you will find this same condition exists throughout the various departments of our college. We are all fortunate in being graduates of the Hahnemann Medical College, and we should do all that we can to further its interests.

It is due every young man who comes to our institution and works in any of its departments, to be pushed ahead and encouraged by the chief of the department, if he is industrious. The old methods in which the head of the department took everything for himself and did very little for his assistants, did not spell development for any institution. These methods are gone and we now find the chiefs of the departments giving their assistants every chance to come to the front. In this way every man in our departments is developed so that the future high standard of teaching will be secured.

## THE EXUDATIVE DIATHESIS

BY CHAS. H. SEYBERT, M.D., PHILADELPHIA

(Read before the Homœopathic Medical Society of the State of Pennsylvania,  
September 12, 1921.)

THE term exudative diathesis is one given by Czerny to a constitutional peculiarity in which there is, in addition to other symptoms, a tendency to exudation or inflammation of the skin and mucous membrane. It is a disturbance of metabolism and is not a disease but rather acts as a predisposing cause of disease.

It is the condition which heretofore was described as scrofulosis, but etiologically it is in no way related to tuberculosis.

There seems to be a close relationship between this diathesis and the "status lymphaticus," but whether they should be classed as one is as yet not possible of determination.

The exact nature or cause of this condition is not clearly understood. It appears to be a latent process which manifests itself as the result of some exciting cause. Infection plays its part; unhygienic surroundings are likewise an important predisposing cause, hence the condition is more common amongst the poor in cities than in the country, although all classes may be affected.

Aside from the constitutional predisposition the exciting cause appears to be an improper diet, one containing an excess of food, especially one of milk in which there is a high fat content.

Czerny regards as the underlying factor a disturbance of the fat metabolism.

Hoobler (*Am. Jour. Diseases of Children*), observed a group of symptoms resembling the exudative diathesis, the cause of which he attributes to a suppressed anaphylaxis from the protein of cow's milk.

Finkelstein, on the other hand, is of the belief that the source of trouble lies in the water and salt metabolism. He also suggests as a possible cause a disturbance in the nitrogen metabolism in which too little nitrogen is absorbed.

The condition is, to a certain extent, hereditary and familial, several children of the same family exhibiting symptoms; while the parents themselves, victims of perverted metabolic

processes, may have been, or are, suffering from asthma, acidosis, gout, diabetes, eczema or some nervous disorder.

It is usually met with during the first year of infancy, with less frequency after this period, and is confined to the breast-fed, as well as those artificially fed.

While the condition may be present in any type of child, it is more often seen in the fat, apparently healthy infant. But no matter what type, the one thing common to all is the tendency to an aggravation or exacerbation of symptoms from uncleanness, increase of fat in the food or environment conducive to a strain upon the nervous system.

The more important symptoms of the exudative diathesis seem to manifest or expend themselves from four different angles, as follows:

- |                     |                             |
|---------------------|-----------------------------|
| 1. The body weight. | 3. Respiratory system.      |
| 2. The skin.        | 4. Gastro-intestinal tract. |

The weight of the affected infant is apt to be stationary for some time after birth, after which there may be a rapid increase, although the normal weight is never quite attained, and any attempt to induce a "take on" in weight is usually followed by a weight disturbance, or some nutritional upset.

The most frequently seen skin affection is seborrhoea of the scalp, or seborrhoeic eczema. This manifests itself as grayish or yellowish gray crusts or scales beginning in the region of the anterior fontanelle. At first this "cradle cap" consists of discrete areas which are easily removed; as the condition becomes worse these areas become more or less coalescent, and the crust increases in thickness and becomes more yellow in color, the whole mass at the same time remaining quite dry. At this stage the underlying skin is not involved and removal of the crust reveals nothing but a pale surface from which there is no bleeding. As the condition progresses the areas become larger, sometimes covering the entire scalp, the crust becomes thicker and more yellow and exudes a sero-purulent fluid, while the underlying skin is red and angry looking.

The skin manifestation seen next in frequency is eczema of the face. It begins with a reddening of cheeks; incidentally, infants with red cheeks should be looked upon with suspicion. The skin becomes inelastic and shiny and covered with fine scales, later on papules and crusts appear, accompan-



ied by intense itching, as a result of the scratching induced, infection is very liable, and may cause an extensive eczematous condition. At times vesicles and pustules make their appearance. As a rule, the skin of the body appears quite normal, but in severe cases there may be a general involvement.

Another skin manifestation met with rather frequently which, for want of a better name, has been called intertrigo, is found in the folds of the skin and behind the ears. It is primarily a simple rawness which eventually assumes a crust formation.

Phlyctenular conjunctivitis is regarded by Czerny as eczema of the cornea. It is usually found in anemic, underfed infants. The relationship of this condition to exudative diathesis has been denied, however.

The characteristic feature of symptoms referable to the respiratory tract is their tendency to recurrence. There will be repeated attacks of pharyngitis or follicular tonsillitis, accompanied or followed by gradual enlargement of lymphoid tissue in the naso-pharynx and tonsil, with subsequent chronic hypertrophy. Rhinitis and bronchitis are frequently encountered. As a result of these frequent "colds," or infections, there is apt to be an enlargement of the submaxillary and cervical glands. Czerny mentions "bronchial asthma," or recurrent sibilant bronchitis as a neurotic outburst of the exudative diathesis. This opinion, however, has not been verified nor concurred in by the majority of American pediatricists.

"Lingua geographica," or the geographic tongue, seems to be the most constant gastro-enteric symptom. It is a thickening of the epithelium covering the tongue, showing as a white exudate and peculiar in that its shape changes from day to day. Stomatitis and canker sore mouth likewise occur. The breath is heavy and at times has a sweetish odor, while the bowels are inclined to be constipated.

These infants, too, are liable to attacks of vulvitis or balanitis; blepharitis is also frequently met with. In the presence of eczema there is usually an increase in the eosinophiles, although Benfey reports a case where eosinophilia existed before the appearance of any marked symptoms of the exudative diathesis.

From a prognostic standpoint it is difficult to say just what effect the exudative diathesis has upon the health of a given child.

Those exhibiting it are prone to infections and are victims of a reduced food tolerance, especially for fat.

The active symptoms, as a rule, disappear toward the middle or end of the second year, although a tendency to attacks of naso-pharyngitis and tonsilitis remains for some time after.

These children, as a rule, are of a nervous temperament, and not so able to withstand nervous shocks as are normal children of the same age.

The possibility of an extension of the diathesis into adult life in the form of the so-called "uric acid diathesis," should be borne in mind.

TREATMENT.—Outside of hygienic measures, such as abundance of fresh air and sunlight, attention to cleanliness in the infant and overseeing any infection in attendants, the treatment is mainly dietetic. These infants are intolerant to milk fat in large quantities, and at times will not tolerate even a low fat content, so that it is necessary to reduce this element of the food; in fact, such infants and children do better upon a restricted diet. They show, on the other hand, an increased tolerance for starch, so that appreciable quantities may be given with advantage as early as the first few weeks. By the eighth or ninth month gruels may be given in place of one or two milk feedings.

Breast milk is best for these infants, as it tends to keep up their resistive powers, but it is often advisable to substitute one feeding of a starch mixture for one nursing period.

During the second year fatty foods should be avoided. With some, eggs must be omitted, and only in rare cases is it advisable to give more than 1½ pints of milk daily. Vegetables of all kinds may be used, but especially spinach, beets and carrots. Oranges, apples and prunes are also well taken, but the bulk of the diet should be cereals of all kinds.

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#### DISCUSSION

DR. C. SIGMUND RAUE, Philadelphia: My name is on the program to read a paper, and it is probably not good form for me to open the discussion on Dr. Seybert's excellent paper; but we have such a limited audience here, and I feel that it would be wrong to allow the paper to go by without some commendative expression. A subject like the "Exudative Diathesis" is a difficult one to handle in an essay. Such a subject as gout is hard enough. You can say that gout is a disease

of purin metabolism, but you cannot even say that much about the exudative diathesis. Yet it is a clinical entity, and not a fanciful name.

With regard to the etiology, I believe that it must be due to some disturbance of protein metabolism, and probably a form of anaphylaxis; because how could you account for one of the most important manifestations of it, if it were simply an intolerance for fat? Fat is made up of carbon, oxygen and hydrogen, and you could not have such marked tissue changes or the blood picture that we have from a mere disturbance of fat. In a fat intolerance we have interference with the weight of the child, the so-called paradoxical reaction developing; but this is simply due to lack of assimilation. In the exudative diathesis, however, we have eosinophilia. I do not think that it has any connection with scrofula, because that is a constitutional reaction to tubercular infection. The child reacts with sluggish changes in the lymph glands and skin; but the exudative diathesis has nothing to do with tuberculosis. There will be from 20 to 35 per cent. of eosinophiles, and they develop a peculiar form of eczema, which appears on the cheeks and is characterized by oozing. It is found also behind the ears, and is mainly limited to the face. It is quite different from the cases of malnutrition or those in which there is probably a disturbance of internal secretion, such as thyroid insufficiency. The eczematous reactions in cases of exudative diathesis are of this active, acute type, and are associated with a high eosinophile count. They are influenced by cutting the amount of milk down and putting the child on a vegetable diet as quickly as possible. In other words, by removing the fat and protein of cow's milk from the diet, and also modifying the salt metabolism. The condition is also influenced by giving a purgative, if the child develops diarrhea. By changing the salt metabolism, there is seen a marked improvement in the skin; but as soon as the patient reabsorbs water, the condition recurs, showing that there must be some connection with the sodium and potassium salts in the blood stream.

**SOME MORBID NASAL CONDITIONS THAT CAUSE OCULAR DISEASES**

GEORGE J. ALEXANDER, M.D., PHILADELPHIA, PA.

(Read before the Homœopathic Medical Society of the State of Pennsylvania,  
September 12, 1921.)

ONE year ago, at the annual meeting of this Society in Harrisburg, one or two members of the profession practicing general medicine, made a plea for the simplifying of papers read at the meetings, that pertain to the specialties, so that they may be more fully benefited by having heard them. This is by no means an easy task to accomplish; in fact, it may be impossible, depending upon the subject and the manner in which it might have to be presented. At any event, on this occasion it is the purpose of the writer to present a short and simple account of some of the salient features relative to a certain group of nose and throat conditions that cause ocular diseases. These abnormal states, though they may appear trivial, are of grave importance, by their presence, and the possibility of their being overlooked where an eye is diseased, the cause of which they are the undiscovered source.

Again, we are not so apt to pass lightly upon acute diseases of the nose, throat and accessory sinuses as the cause of simultaneously existing eye symptoms and signs; hence the desire to confine my remarks to this group which the average physician is less likely to consider; in some instances because he does not know of their presence, and in others, if he does realize their existence, he does not fully appreciate their significance. I, therefore, call attention to the following conditions: (a) Deviated septum; (b) Irregular and thickened septum; (c) Septal ridges and spurs; (d) Hyperplasias of the turbinates, notably the inferior ones; (e) Nasal polyps; (f) Traumatism; (g) Disease of the accessory sinuses, varying in stage and degree; especially the mild, insidious, so-called catarrhal form so frequently found in the ethmoid sinuses; (h) Adenoids; (i) Diseased tonsils.

Any one or more of the intra-nasal conditions may act as an irritant through existing contact, resulting in congestion, a condition so commonly found between the middle turbinates and the septum. Obstructions that cause blocking up of secretions, etc., exudates, serous or purulent, and other toxic materials, such as are found in diseased tonsils and adenoids, are

some of the media found to be the causative relation of a disease to which the eyes may succumb sooner or later.

The diseases of the eye of which these morbid conditions in the nose may be the causative factors are classified by Dr. James Allen Patterson, in a paper read before the Western Section of the American Laryngological, Rhinological and Otological Society, at Colorado Springs, February 26, 1921, in the following manner:

1. External Ocular Diseases.
2. Orbital Affections.
3. Diseases of the Deep Tunics  
and the Optic Nerve.

By what means are the effects of these morbid nose, throat and sinus conditions so readily transmitted to the eyes? The answer to this question is without difficulty when one considers that the lacrymal passages are to the eyes what the eustachian tubes are to the ears in relation to the forwarding of results of pathological states from the nose and throat to the eyes. Secondly, it should be remembered that the eyes are almost surrounded by accessory sinuses, the bony walls of which are, at best, exceedingly thin, offering almost unobstructed access of foreign elements or infection from the sinuses to the orbits and the eyes.

When the eyes are affected by any one of the above quoted causes, no matter how mildly, there is always one subjective symptom mentioned by the patient; namely, a sensation of weakness of the eyes, due to impairment of accommodation, as a result of irritation of the optic nerve.

The proper correction, for the most part surgical, of the nasal abnormalities, etc., invariably modifies this eye condition, so that patients not wearing glasses, but complaining of eye weakness, experience complete relief; while others wearing a certain correction are inclined to discard it and go without. Another portion are obliged to have their eyes re-examined and a change of glasses prescribed, usually of weaker refractive strength, showing the importance of these patients being subjected to observation by an oculist before being discharged.

The statement made in another part of this paper referring to the earlier suggestive possibilities in acute nasal diseases of associated eye complications should not be translated in a literal manner, for they are not without their exceptions,

as was demonstrated to me a few months ago, when a virulent case of ethmoidal empyema that, because of the absence of certain symptoms and the apparent harmless character of others early in the disease, did not suggest the gravity of the patient's condition to the local physician, until such time as was too late to endeavor to prevent an intense acute infection of the eye, and acute meningitis from which the patient died before radical measures could be applied, the entire course of the illness not being more than four or five days.

The ophthalmologist is the one best fitted to appreciate the importance of associated eye diseases with these nasal disorders, though the rhinologist can by no means afford to be ignorant of their relationship. The same principle applies to the profession in general who should be familiar, to a fair degree, with the fact that certain eye troubles co-exist with and are the result of nasal irregularities, such as have been mentioned in the above presentation of the subject in which details, concerning the causes and results, were purposely avoided for the convenience of those who can not devote the special attention necessary to keep themselves well posted on it.

#### DISCUSSION

DR. J. W. STITZEL, Hollidaysburg: I think that one of the things that is not so thoroughly understood, and yet ought to be from our knowledge of anatomy, is the relation of the different accessory sinuses to the orbit. There seems to be a failure of the general practitioner to appreciate thoroughly and understand how diseases of the accessory sinuses can have an effect on the eye. It has been my good fortune, in the last few years, to see a number of these cases in patients who would come to me for severe headache in the region of the eye or in the eyeball itself, where the trouble was in some of the accessory sinuses—usually the ethmoid or the frontal. Some headaches of almost continual character are due to the accessory sinuses, especially when the headache comes on in the morning, remains until noon, and grows less towards evening. Almost every case of this kind has been benefited by the use of the argyrol tampon, as is commonly employed in our school. It would be well, if the general practitioner thoroughly understood the use of the argyrol tampon; because he could relieve cases that otherwise go on to a chronic state, so that finally we do have some disease of the bone itself or some operative condition. I am pleased with the results that I have obtained during the last few years from the so-called argyrol tampon.

DR. G. J. ALEXANDER, Philadelphia, closing: Dr. Stitzel has referred to the importance of the association of diseased sinuses with pathological conditions of the eye. In conjunction I wish to lay particular stress upon the presence of intranasal obstruction. For the reasons, First, because frequently surgical intervention is necessary before you can carry out effective treatment, topical or operative, of diseased sinuses. Second, because they act as an irritant through pressure contact, resulting in inflammation, which is constantly being overlooked and which in turn is transmitted to the eyes. The contact and pressure by adenoids in the postnasal space acts in practically the same manner as do intranasal obstructions; together with more or less toxic material associated with the adenoid mass. A diseased tonsil, though quite remotely situated, acts as a primary focus from which infection and inflammation travels up the walls of the pharynx through the nose and lacrimal ducts to the eyes, a rather circuitous route, but it gets there. Added to this are the toxic effects upon the general nervous system, which in turn serves to lower the resistance of the eyes.

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### CERVICAL LYMPHADENITIS IN CHILDREN

FRANK B. EDMUNDSON, M.D.,

ROENTGENOLOGIST TO PITTSBURGH HOMOEOPATHIC HOSPITAL

(Read before the Homœopathic Medical Society of the State of Pennsylvania, September 13, 1921.)

ENLARGED cervical lymphnodes is a condition commonly noted in children and is always a significant diagnostic sign of present or recent pathology. It is true that lymphadenoid tissue in early life has a tendency to hyperplasia from slight causes, nevertheless, it is often these so-called slight causes that are productive of the illness from which the child suffers.

My interest in the significance of cervical lymphadenitis was aroused by the finding of this condition in the majority of children referred for examination to the Diagnostic Clinic of the Pittsburgh Public Schools, and the careful investigation of the children referred to the X-ray department of the Pittsburgh Homœopathic Hospital for X-ray treatment of severe adenitis, tuberculous and otherwise. Every child that presented large cervical adenitis was carefully examined for the

etiological factor producing the same, and when the cause was found and removed the lymphadenitis disappeared in the great majority of instances. Cervical lymphadenitis for convenience is classified as follows: Acute lymphadenitis; chronic lymphadenitis; tuberculous lymphadenitis; syphilitic lymphadenitis; Hodgkins disease; new growths, such as lymphosarcoma, etc.

*Acute Lymphadenitis*—The cause is infection either by the actual presence of the micro-organisms in the gland, or to toxins draining into the gland from the primary infected area. It is possible, but rare, to have primary infection of the gland. The adenitis is usually secondary to mouth, nose, nasal accessory sinus, throat, ear, eye and skin infection and frequently complicates diphtheria, scarlet fever, measles, influenza, salivary gland infections, tonsillitis, rhinitis, sinusitis, alveolar abscesses, gingival abscesses, stomatitis, eczema, infected dermatoses of the scalp or face, and, in fact, infections of any type located in the head. Excluding the acute infectious diseases, gingival abscesses (gum boils) and sinusitis are probably the most common causes. The usual infecting organisms are streptococcus, staphylococcus, pneumococcus and the diphtheroid bacillus.

*Chronic Lymphadenitis*—Under this head are considered all palpable cervical lymphnodes excluding tuberculous and syphilitic adenitis, Hodgkins disease and new growth. These enlarged and palpable lymphnodes should be considered abnormal and indicative of absorption of toxic products from that area drained by the lymphatics involved. It is, therefore, the duty of the examining physician to locate and, if possible, to eradicate the primary infected area, which, when done, will not only cause a gradual disappearance of these enlargements, but also a marked improvement in the general healthfulness. The most common causes are carious teeth, gingival abscesses, alveolar abscesses, diseased tonsils, chronic rhinitis, sinusitis, dermatoses of the skin and scalp, pediculosis, chronic otitis and the commonly associated mastoiditis, conjunctivitis, adenoids, etc.

*Tuberculous Lymphadenitis*—This condition does not appear to be so common as heretofore believed. Many of the so-called tuberculous infections of the cervical glands could not be proven so and frequently cleared up with the removal of the foci of infection elsewhere. Tuberculous adenitis should



be diagnosed only upon very positive evidence, namely, increase of swelling and the local symptoms following the hypodermic injection of tuberculin and a positive Von Pirquet reaction; the absence of any primary infection that would cause a non-tuberculous adenitis; tuberculous lymphnodes are adherent to the surrounding tissue and are prone to suppuration and caseation. They are rare in infancy. Evidence of tuberculous lymphadenitis in other parts of the body, especially enlarged mediastinal and peribronchial lymphnodes is useful diagnostic evidence. The old healed scars of tuberculous infection are more deforming and irregular than those resulting from simple acute adenitis. The infection may either be with human or bovine type of bacillus and the demonstration of either in the discharging or aspirated fluid makes the diagnosis positive.

*Syphilitic Lymphadenitis*—Cervical adenitis, due to inherited lues is usually associated with a general enlargement of the lymphnodes throughout the body and especially an enlargement of the epitrochlears. The finding of other evidence of syphilis as keratitis, bone lesions, etc., Wassermann reaction and the disappearance of the adenitis under anti-syphilitic treatment are valuable diagnostic procedures.

*Hodgkins Disease*—This condition is practically unknown in infancy and very rare in childhood. The cause of this progressive and fatal disease is unknown. A diagnosis is made first, by the process of elimination; second, by the microscopy of a portion of excised gland; third, by the progressive nature of the condition which eventually leads to enlargement of other glands throughout the body, particularly those of mediastinum and demonstrable by fluoroscopy. Other diagnostic points are: Enlarged spleen; a constant irregular pyrexia. The blood findings are not typical but are nevertheless valuable. A blood count immediately following the onset of the disease is in no way characteristic. Later, there is more or less secondary anemia, a lymphocytosis and an abnormally high number of transitional leucocytes.

*Lympho-sarcoma*—Usually a large, rapidly-growing bilateral tumor, involving the surrounding structures. Microscopy of the excised tissue is typical.

A diligent search will usually reveal the cause of the simple type of adenopathy. It is true that a general enlargement of the lymphnodes is found in children suffering with malnutrition; this, in my opinion, is not a symptom of mal-nutri-

tion but probably results from the same infection or toxemia that is producing the mal-nutrition. Focal infection in children is underestimated as a causative factor producing illness in children. The retention of an infected tooth in a child's mouth, for the reason that a too early removal interferes with the eruption of permanent teeth and a development of the jaw, is ridiculous. Certainly, it is a lesser evil to remove the infected tooth than to allow the continuous absorption of toxic material from infected peridental tissue, which is productive of disease in other organs of the body.

Granted that the premature extraction of an infected tooth does produce mal-occlusion, certainly mal-occlusion is more easily corrected and less harmful to the child than nephritis, endocarditis and a multitude of other bacteria-produced diseases. In fact, it is probable that leaving the infected tooth in the jaw is more of a factor in producing mal-occlusion by infecting and destroying the gubernaculum that determines the tooth's final position and facilitates its normal eruption.

Teeth of children are frequently neglected by the physician, dentist and parents, and it is a satisfaction to note that dentists, specializing in children, are gradually appearing on the scene, who are willing to give the necessary time, patience and effort that children require, but up until now have never received. Remember, that nasal accessory sinus inflammation is not at all rare in children, as heretofore supposed, and it frequently explains fevers of obscure origin so often encountered in children. X-ray of the nasal accessory sinus is of great diagnostic importance.

Diseased tonsils are frequently the cause of enlarged cervical lymphnodes and in the absence of other foci should be removed. Chronic infection of the tonsils will frequently disappear when other infections are cleared up. Otitis media is a persistent cause of adenitis. It is usually associated with a chronic mastoiditis. Adenoids should be removed and mal-occlusion of the teeth should be corrected by an orthodontist. Proper aeration of the nasal cavity should be obtained. Anatomic deviation in the nose should be corrected, if possible. Suppurating and caseous glands should be aspirated or incised and drained. Surgical removal of glands is rarely indicated, except for diagnostic purposes. Calcium iodide and arsenic iodide are useful remedies.

Heliotherapy, including light from any source, namely,

X-ray, quartz lamp and sun light, is very useful. In tuberculous adenitis it is an excellent rule to remove the tonsils in every instance, as these are often the seat of primary infection. Tuberculin treatment, according to the method of Bonime, combined with X-ray and the general classical treatment for tuberculosis of every type usually results in a cure.

Syphilitic adenitis, ordinarily, readily responds to anti-luetic treatment.

X-ray treatment retards somewhat the progress of Hodgkins disease, but does not cure.

Lympho-sarcoma is regularly fatal. X-ray and radium therapy, Coley's fluid, and the surgical removal of the tumor, are usually unsuccessful in combating this distressing condition.

*Resumé*—Enlarged lymphnodes are abnormal and should be considered as diagnostic evidence of the presence of infection, toxemia or new growth. Tuberculous adenitis is frequently confused with simple chronic adenopathy. Focal infection is a tremendous factor in the production of many of the perplexing abnormalities of childhood. Acute chronic infection of the nasal accessory sinuses is commonly present, but frequently overlooked by the examining physician. Removal of teeth causing peridental infection should be insisted upon. Eradication of focal infection causes the disappearance of many conditions common to children, namely, adenitis, arthritis, rheumatoid conditions, nephritis, cardiac disease, malnutrition, thyroid disease, etc. Remember, it is easier to prevent disease than to cure it, and the mission of the medical and dental professions of today should primarily be prophylaxis.

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### CHRONIC DUODENAL ULCER CASE

E. T. PRIZER, M.D., LANCASTER, PA.

(Read before the Homœopathic Medical Society of Pennsylvania, Sept. 13, 1921.)

It is the purpose of this paper to limit the discussion to the early diagnosis and medical treatment, with limitations, of chronic duodenal ulceration.

A large amount of work has been done by investigators to establish accurate knowledge of the causes. Very few actual and practical clinical results have been obtained. In the first

inch and a half of duodenum the plexus of arteries are small and are less free in their anastomosis. This type of artery is more liable to be occluded by emboli and a resulting anaemia. It is reasonable to believe that a fertile field is established for infection, as well as a lowered resistance on the part of the mucosa to the digestive action of hydrochloric acid and an ulcer is the sequence.

Delayed emptying time of the stomach is also an important factor in pyloric ulceration; by food being retained longer than the normal period. The physician of unprejudiced and observing mind is convinced that many acute duodenal and gastric ulcers go unrecognized as such, and are often treated as cases of simple functional disturbance. Uncomplicated gastric or duodenal ulcer of a short duration is one of the most satisfactory diseases of a major nature to treat, under proper management; the tendency is to heal rapidly. If the ulcer has existed for some time, say a year, it heals more slowly. If, on the other hand, there is faulty treatment and failure to recognize the importance of radical medical, hygiene and dietary treatment, ulceration is likely to grow into a chronic state with indurated edges and requiring a long protracted treatment or surgical interference to complete a cure.

The stomach is one of the most powerful organs in the human body. Its normal function means much to the efficiency of health. Ulceration of the pyloric end of the stomach is one of the most common of the organic gastro-intestinal diseases; the diagnosis of which is imperative to render the proper treatment of this abnormality. It is not new to the medical profession. The symptomatology has convinced physicians of more than a century of its presence in adult life, and most frequently in men. The present methods of diagnosis and treatment are the results of the process of evolution in research work as well as clinical experience. This patient was a referred case:

A man 49 years old, has had no illness of any sequence, excepting stomach disturbance at stated periods for ten years. Whenever the condition aggravated, he sought treatment with relief for a time. This state of affairs repeated itself until no relief could be given by previous methods of treatment. The examination of these patients complaining of trouble referable to the stomach requires great care and demands important study of the patient and symptomatology. Your diagnosis can never be too well fortified. The family history

is negative as to tuberculosis and cancer. Engaged in outdoor work; has been a heavy eater. He has had repeated attacks of digestive disturbances; excessive acid stomach; pain and pressure in epigastric region. Beginning two or three hours after eating, these pains persist unless relieved by taking food into stomach; these attacks would last for a week or two, and disappear only to repeat themselves in a short time. He described the pain as a gnawing, burning sensation, a hunger pain, sometimes extending over right costal region, belching and nausea, very little vomiting. Later, the pains occurred at 3 A. M. The patient has learned to have milk and crackers by bedside to be taken when pain would awaken him; loss of weight with pallor and constipation, which is the rule in most of these cases. If proper treatment is not instituted at this stage of the disease, impairment of the patient's health and efficiency becomes marked and continues until some serious complication arises, such as a severe hemorrhage or perforation of the stomach, endangering the patient's life. The patient has had an attack of slight dizziness, followed by black stool, showing there had been a hemorrhage. In duodenal ulcers, blood will usually disappear from the stool in a few days, under proper management, except in a case of malignancy. Physical examination was made of the mouth for infected teeth, and of the throat for infected tonsils, condition of the ears and cervical glands—not with the idea in mind that infected teeth, tonsils and glands caused duodenal ulcerations, but that infected foci wherever they may be located in the human body will lower the patient's vitality and retard recovery.

After chest and lung examination, we examined the abdomen and found tenderness in the epigastrium to right of midline, some rigidity of rectus muscle. There are several conditions we must consider in this region in making a diagnosis: chronic appendicitis, chronic pancreatitis, gall bladder disease, and a complicating gastric ulcer. The nervous reflexes in this patient were normal. The blood pressure taken to exclude arteriosclerosis which, if present, will cause abdominal pains at times; Wassermann test, negative. The stool examination showed the presence of occult blood, but no pus; blood count developed a slight increase in leukocytes; urine examination showed slight trace of albumen. The fluoroscopic and X-ray examination revealed gastropnoia slight. No dilatation of the stomach, motility of about seven hours, evidence

of delayed emptying time of the stomach. The plates showed a contraction in the region of pylorus. No doubt, the inflammatory condition due to swelling attending ulcerations and spasm from increased intragastric tension on walls of the stomach caused this contraction, also influenced motility. The interpretation of the X-ray plate showed no obstruction of duodenum from cicatrix or secondary carcinoma. The plates showed no distinct duodenal cap. The stream of bismuth was partly retained; a small patch or pocket showed in the plate, which probably indicated location of ulcer.

Test meal showed no trace of hydrochloric acid, a slight positive reaction for occult blood.

A high grade gastropptosis will develop symptoms much like that of ulceration. The diagnosis is easily made and proper treatment promptly relieves the symptoms. The symptoms, physical examination and laboratory findings in this case are sufficient to confirm the presence of an existing chronic ulcer of duodenum. The treatment established was started by putting the patient to bed for absolute rest, withdrawal of food by mouth was imperative for a few days; excluded all visitors from the sickroom; ice bag to the abdomen, because of the presence of occult blood in stool which was discontinued on the fourth day; tap water by Murphy drip method, allowing the patient to retain one quart and a pint, 24 hours; this sustains body weight and causes less discomfort, then nutritive enemas. The pain occasioned by hyperacidity was relieved by aspirating with stomach tube every 12 hours. I believe this is better than large doses of alkalies. He spoke of feeling unusually well during the starvation period, as most of these patients will. In bleeding ulcers it is absolutely necessary for a period of starvation. This fasting treatment continued for three days. The first feeding on the 4th day of treatment was 2 oz. of cream in vichy water, repeated every 2 hours from 7 A. M. to 11 P. M. On the 6th day, 3 oz. of cream and milk in vichy water every 2 hours. Eighth day, no gastric distress. We add 3 oz. of strained cooked cereal at noon meal. This method of feeding was continued until the 11th day, when soft boiled egg at 8 A. M. was added. No change was made in diet until the end of the second week. During the third week, milk and cream with vichy continued, soft egg, scrambled egg, soft mashed potatoes, various soft puddings, minced chicken and ham, puree of beans. From now on until the

end of the seventh week no change was made in the diet; patient feeling well. He was kept in bed for five weeks and then allowed in chair part of time for two weeks more. The patient was discharged from the hospital at the end of the third month and referred to his physician to continue treatment. During these three months of treatment he practically had no gastric distress. Before he was discharged, the patient was fluoroscoped and X-ray plates taken and findings compared with original examination. The emptying time had been shortened to about 5½ hours, and a free passage of the bismuth stream through duodenum was noted. We added to his diet toast, crackers, zwieback, cooked asparagus tips, ice cream, cream soups, minced cooked lamb and beef. This diet continued until the end of the sixth month, when a re-examination showed a marked improvement. The patient gained considerable weight. No stomach distress. These conditions added to our encouragement to continue treatment. He had been instructed to masticate his food thoroughly, smoke in moderation and avoid alcoholic beverages. Not permitted to work, but allowed to exercise carefully, such as walking and playing golf. Six months from first examination he was permitted to eat food without being minced. At the end of nine months he was pronounced cured. However, recognizing the fact that the disappearance of symptoms is no evidence that the ulcer is entirely healed, he was kept under observation and treatment until the end of eighteen months with the fluoroscope and X-ray examinations every four months as a control in the final judgment of the case. The medicines prescribed during the treatment were hamamelis bella, china, anacardium, argentum, nitricum and nux vomica, with ten grains of calcined magnesia at 11 A. M., 4 and 10 P. M. This controlled constipation. In cases where this is not sufficient and constipation is troublesome, use enemata. In cases of permanent delayed emptying time, and ulcer with cicatricial stenosis, also evidence of secondary carcinoma, surgical treatment is necessary. In cases where medical care has been instituted for a reasonable length of time and ulceration fails to show improvement, as those of a deep penetrating character, the surgeon should be called. With medical management, and fluoroscopic and X-ray control, with no detour on the part of the physician's keen observation for a period of one to one and one-half years, a very large percentage of chronic duodenal ulcers will be cured.

**FOCAL INFECTION IN RELATION TO THE SEMINAL VESICLES**

BY THE LATE WM. C. HARMOUNT, M.D., PITTSBURGH, PA.

(Read before the Homoeopathic Medical Society of Pennsylvania, September 14, 1921.)

If one carefully peruses modern medical literature it will be found that focal infections occupy much space. So fixed in the medical mind is this subject that by reading between the lines one can almost see that many are of the opinion that infections are responsible for practically all diseases. Advances in bacteriology, immunology and chemistry, as practiced in the clinical laboratory, along with roentgenology, have made possible the study of the relationship of a walled-off pocket containing pyogenic bacteria to pathologic conditions in distant parts. The most common of these foci giving off continuous or irregular discharges of noxious material into the system are the roots of the teeth and tonsils. Then, too, the accessory nasal sinuses play no small part in the process.

Since infections in the tonsils or alveolar processes, or sinuses, can be responsible for secondary low-grade infections in joints, muscles, or viscera, it seems safe to assume that they can also occur secondarily in the seminal vesicles. That secondary infections do occur here is demonstrated in the instance of tuberculosis which, being primarily in the lung, may develop in the genito-urinary apparatus, and that only.

Inflammation of the seminal vesicles is usually gonorrheal in origin. Complicated with other organisms it may be acute or chronic, but really acute cases are rare. It may also be primarily due to certain indirect causes such as sexual excesses, traumatism to the posterior urethra, etc., but it is generally secondary and I should like to cite three cases on this condition:

CASE I—Mr. K., age 22. Occupation, student. Consulted me March 15, 1921. Family history negative. He denies any venereal history. Clavicle broken and teeth knocked out in football. He complains of frequent urination in afternoon and evening without any burning sensation, says it is embarrassing to attend the theatre in evening. There is no discharge. Urine clear and no shreds. Urine examination negative except for few pus cells and epithelium. Urine negative to culture and to guinea pig inoculation for tuberculosis.



Rectal examination—prostate slightly congested but not painful. Right vesicle palpable, left easily palpable, boggy and very painful. Massage produced a great deal of detritus. Cystourethroscopy water dilatation negative except slight congestion of the verumontanum. He was massaged twice a week for four weeks, slight relief of symptoms but still a great deal of detritus was passed. I advised an X-ray of his teeth because I couldn't find any cause of his condition. X-ray showed two roots with pus pockets on which his bridge work was attached. Within a month, after treatment for this condition, his symptoms were practically gone and his vesicles cleared up very quickly. I saw this patient about two weeks ago. He says his symptoms have gone and he feels perfectly well.

CASE II.—Mr. B., age 32. Occupation, architect. Consultation April 6, 1921. Family history negative; influenza 1917; two attacks tonsillitis 1917; sexual life normal. For about a year had been complaining of nervousness, slight backache, occasional pains in testicles, sexual powers diminished. Examination: No discharge or morning drop, urine clear and sparkling. Repeated examinations of urine reveal nothing but pus cells, epithelium, few bacteria. Rectal examination: Prostate, right lobe enlarged boggy, both vesicles enlarged and very tender. Much detritus brought down with massage. Massaging of vesicles and prostate brought no relief. I sent him for X-ray examination and report came back showing five teeth with pus at roots and both tonsils in bad shape. He has had the teeth and tonsils removed. His general condition is much improved, backache gone, very little pain in testicles now and his prostate and vesicles show improvement.

CASE III.—Mr. M., age 45. Coal operator. Family history unimportant. Personal history: Gonorrhea when 20 years old, mild case, no complications. For four or five years has been treating for frequent urination without any burning. Pain in left testicle, with very little improvement. Examination: Urine clear with a few pus shreds. Left epididymis thickened and tender. Prostate about normal. Both vesicles palpable. Massage shows a great deal of pus, detritus, some color bacillus. Cystourethroscopy: Bladder normal, no prostatic median bar, posterior urethra congested and verumontanum large and boggy. I went over this case very carefully and found some bad looking teeth and enlarged tonsils. Was

sent to a nose and throat specialist who reported diseased tonsils, and pus in right antrum. X-ray examination of teeth revealed pus pockets at the roots of two molars. He has had the antrum drained and tonsils removed, is gaining weight and feels better generally. He will have his teeth removed at a later date and I feel positive that his genito-urinary condition will improve.

The main point that I wish to bring out in this short paper is the fact that where you have focal infection in other parts of the body, the general constitution of the patient is below par, the resistance is lowered, genito-urinary secondary infection possible, and you cannot relieve these conditions until you have taken care of the primary foci.

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#### POST-OPERATIVE ADHESIONS AND THEIR PREVENTION

BY HENRY P. REPLOGLE, M.D., ALTOONA, PA.

It would seem from the data at one's command that this was a very minor subject; but when one stops to consider it from all angles it is indeed a wide subject, one which has not had its proper sphere in world-wide surgery. How often do we hear the surgeon say, "Oh, yes; you have been operated upon before; most likely you have some adhesions"—and very likely the patient has—so that your intelligent patient will say: "No use to operate on me—the adhesions will just come back again." Who among us can gainsay this? Are we to remain helpless? It is for this reason that I am bringing this paper before this meeting. I want to create a discussion and an interest that will get us somewhere; so that when we are held up as being helpless, we can promise something at least, and not be compelled to admit our inefficiency to deal with this important subject. Of course, each case is different, but there must be some principle which can be varied to meet the individual instances.

ETIOLOGY AND PATHOLOGY.—Here the two are very closely associated and can be taken together. The causative factors are mostly:

1. Inflammation, due to bacteria, which destroy the endothelial lining of the peritoneum.

2. Irritants, such as iodine and chemicals. Burning with cautery.
3. Too frequent sponging with dry sponges. Air, according to Richardson, has an irritating influence.
4. Improper care of peritoneal surfaces. Rough treatment of the peritoneal lining. Kinking of intestines. Large denuded areas.
5. Lack of care in closing peritoneum. Many other causes of minor importance.

**SYMPTOMATOLOGY.**—Consists of constipation, pain and often pain in back. All symptoms are exaggerated by exertion, jolting or anything increasing the intra-abdominal tension.

Diagnosis is best determined by barium or bismuth meal with radiographs; these will show the kinkings or displacements of intestinal coils, and viscera displaced from adhesions.

**TREATMENT.**—And now we come to the part of this paper that I hope will create a discussion. "How are we going to prevent these adhesions in most instances?" "There is nothing perfect in the world, but how are we going to get the nearest perfect results?" I believe by careful study of each case and attention to detail, much can be done to relieve.

**TREATMENT.**—The most difficult cases are those who come to us with acute inflammatory conditions of the uterus, ovaries, tubes, appendiceal inflammations, acute cholecystitis, etc. Here I think we can make a division except for acute appendicitis, obstruction, ruptured gall bladder, perforating gastric ulcers and ectopic gestation. All other cases should have rest in bed and treatment until the inflammation has subsided and the patient is in such a condition that the operative procedure can have the best possible after-results; when the system can have had time to become at least partially immune from further infection. This has reference in particular to pelvic infections. In this line of cases are the ones we most frequently find the post-operative adhesions. I consider it very bad surgery to open the abdomen for large abscesses extending into the cul-de-sac of Douglas; these should all be treated by puncture and drainage. Nature will nearly always absorb your adhesions above focus of infection; while if you separate them you break the endothelial lining, and they reform.

One's technique should prevent the irritants reaching the

peritoneum. If the cautery is used, it should be used thoroughly—deep burning does not cause adhesions, while destruction of merely the endothelium does.

All sponges used in the abdominal cavity should be moistened and all unnecessary sponging avoided. Your operative field should be carefully isolated with sterile pads moistened in sterile water, being careful not to kink the intestines or pull unnecessarily on the mesentery. Rough handling of the intestines and omentum means bad surgery. Intestines should be handled as much as possible between moist gauze pads. Large denuded areas are a problem; they sometimes can be closed by sliding peritoneal flaps and peritoneal grafts, and the part not covered should have the omentum between it and the intervening peritoneal surface. It is a fair rule that adhesions where there is plenty of fat, as often in the omentum, give very little discomfort or pain.

Care in closing peritoneum is very important. When one notices how many post-operative abdomens have adhesions of the omentum and intestines to the suture lines of the peritoneum, one wonders if the edges were properly turned out leaving a smooth under surface.

And now for the cases in which we know all these precautions are going to fail. What shall we do? Many things have been tried but not one seems to be of much use. Some of the things used have been normal saline solution left in abdomen, sterile olive oil, paraffine and various forms of mineral oils, on the theories that they would prevent the surface adhering. The saline was quickly absorbed and after-results have shown all others as being very little or not at all efficient.

Postural changes have given me the best results. Patient's position should be changed every half hour for first two or three days; on one side, then on other; head of bed elevated, or feet elevated. Of course, this has reference to clean cases. Postural changes in pus cases are dangerous, but in all mild infections they can be used to advantage. Each case should be treated with individuality, as no two cases can be handled in exactly the same manner. I believe if this system is carried out our results will be better.

#### DISCUSSION

DR. MORELAND: This matter of the prevention of adhesions is a very serious one, especially from the standpoint

of the patient; and any thought or idea that can be brought forward in regard to preventing adhesions following operations will certainly be of value. We cannot expect much of cases in which adhesions are present before the operation is performed, but we can develop such a technique that the tendency for their formation will be lessened.

FRANCIS T. KRUSEN, Norristown: Some of the best men in the country see fit to use sponges covered with rubber—of course, thoroughly sterilized—as walling off mops. Their reason is to do just as little damage to the tissue as possible. They also use wet mops in the abdomen, all being moistened with normal salt solution.

HENRY B. REPLOGLE, Altoona, closing: I just want to report a few cases briefly. One patient had been operated on three times: the first time, for a pus tube of the right side, the surgeon having also done an appendectomy. Within six months, she came to me. The surgeon, whose name I do not know, had done the first operation at the wrong time. She had a worse condition than formerly. She had many adhesions. I operated very carefully, and separated the adhesions; and left a good deal of saline in the abdomen. I kept the patient quiet with a half of a grain of morphia during the first twenty-four hours, and quarter a grain during the next twenty-four hours. A year after this, the patient came to me again, with more adhesions than she had had before. I operated again. Following this operation with postural change, there was almost an absence of adhesions. She gained in weight, and her general health was better. I suppose that some would say that this was caused by absorption of the adhesions.

The second patient was operated upon by a surgeon in Altoona and had a number of adhesions. I used postural change on her after operating for this condition. She had a great deal of inflammation at the first operation. Later, it became necessary, on account of a thickened gall bladder, which had not been removed at the first operation because her condition would not permit, to operate again. I removed the gall bladder at this second operation, and found no formation of adhesions.

I realize that two cases are not sufficient to bring about a conclusion. Observations should be made on a few hundred cases, at least. But I believe we do change the position of the intestines by changing the position of the patient from side to side or changing the position of the head or feet.

I am fond of the Fowler position, and not of the Trendelenburg. I bring the omentum well down over the intestines; because, if you are going to get an adhesion, it is better to get it in the omentum than between coils of intestines.

## THE HOMŒOPATHIC REMEDY IN MENTAL DISTURBANCES

BY W. C. SEITZ, M.D., GLEN ROCK, PA.

(Read before the Homœopathic Medical Society of Pennsylvania, September 14, 1921.)

A SOUND mind in a healthy body is an invaluable entity and is to be envied by anyone not possessing this blessing, while the most pitiable condition is that of a perverted mentality. While not an alienist, it has, however, been my lot to treat perhaps more than the usual number of mental cases as a general practitioner, thus becoming familiar with conditions and obtaining results that are commendatory to homœopathy; for most of my material came to me second or from the other fellow who had several weeks or months on the case. I learned early in my professional career to carefully study and memorize the key-notes to the well proven drugs in the homœopathic realm. In mental disturbances study the great quartet—*belladonna*, *hyosциamus*, *stramonium* and *veratrum album*, which will cover most of the leading mental perversions.

With your permission I will largely present what I have to say on mental remedies by presenting cases. I consider this the most impressive method of imparting experience; this may be somewhat antiquated, but my old preceptor of many years ago, who was a great homœopathic student and prescriber, followed this method which was invaluable to me, and I am sorry that the days of preceptors and student days in their offices is past, for the student very early got the practical which is often missed in school and hospital and how lonesome the poor fellow is when he gets in a stormy sea and no one to consult.

*Belladonna*.—Comes early in mental conditions, the principal symptoms are violent mania, biting and raging, flushed face, dilated pupils, throbbing headache, shooting pains, sleepiness with inability to sleep, excessive thirst but afraid of all liquids.

*Hyosциamus*.—At times stupid, does not recognize anyone, with muscular twitching, again great mental excitement, singing and laughing, sexual excitement, obscenity, removing the clothing, great apprehension, fear when alone, fear of being poisoned or bitten by animals.

CASE I.—Male, aet. 26. Found him in room with no cloth-

ing on, surrounded by his friends. Hadn't slept for 72 hours; commenting on the purity of his body and the pure white of his skin; very religious; insisted that God wanted him in this nude condition. Physical examination showed advanced pulmonary tuberculosis. Prescribed hyos. 3x. Next day better; quiet, in bed; then gave hyos. 30. In one week was mentally well. Died eight months later with T. B. No return of mental disturbance.

CASE II.—Male, aet. 65. Had refused food for one week for fear of it containing poison; marked muscular twitchings. Prescribed hyos. 3x. Slept that night. Took his breakfast without a question. Later prescribed the 30 of hyos. Entirely clear mentally and his physical condition improved.

*Stramonium*.—Fearful delusions of men, ghosts, animals and insects springing up around him. Imagines has been abused or even killed. Changes from great exaltation to violent desperation and rage; always worse in the dark; demands light; frightful dreams.

CASE I.—Male, aet. 80. Had fracture of tibia, confined to bed two weeks, when he developed delusion of a fearful snow storm raging; this was in June, when his farmer was making hay; when he attempted to sleep his geese would come to him and take his breath. Stram. 30 cured.

CASE II.—Female, aet. 81. Every time she was ill, if in summer time she was annoyed with snow flakes in her room, or if in winter time she was disturbed with flies. This condition always corrected with stram. 30th. Both these senile cases responded quickly to this drug.

*Veratrum Album*.—Very despondent, with anxiety of having committed some dreadful deed; grief with involuntary weeping; fearful of some impending misfortune; low vitality. After a seeming recovery with this drug it must be continued for some time to avoid a relapse.

If we will remember the following we can readily differentiate in this group of drugs: Belladonna is fierce and brave. Hyosciamus is jolly and companionable. Stramonium is wild and cowardly. Veratrum album is hopeless and despairing, plaintive, beseeching for salvation, which is apparently lost.

Calc. carb, 30, despondent, confusion of mind, changeable disposition, once kind and calm, then angry and vehement, hopeful then despondent, with the clammy condition of the body.

CASE.—Male, aet. 32. Bookkeeper, became uncertain in his work, could not sleep, absent minded, would stop suddenly in the street and stand for an instant a blank; he was conscious of this; clammy, cold perspiration, lost weight, had to quit his position. Gave him calc. carb. 30. Gradual improvement, and after six months perfectly well mentally and strong physically.

*Anacardium* 30.—The Dr. Jekyll and Mr. Hyde and cursing remedy.

CASE.—Male, aet. 40. Farmer. Was disturbed by voices and commands by visionary persons, so that he had to quit his work, could not sleep on account of this delusion. Completely cured in two months.

For the suicidal tendency I have had better results with arsenicum album than from aurum met. Had one case cured with Aurum 30 who had the loathesomeness of living. I cured many cases with arsenicum 30, especially when there was more of a fear of committing suicide with marked prostration.

In mental troubles we must be very careful to prescribe for the individual and in taking the case consider all symptoms in the selection of a remedy. To this I attribute my success in treating mental perversions, as I would not attempt to make an up to the minute, classical diagnosis in psychiatry. I have frequently been branded by my old school brethren as a symptom "fitter," but I don't care how I am tabulated so long as I have good results.

#### DISCUSSION

DR. HENRY I. KLOPP, Allentown: It is pleasing to have a man in general practice present such a paper before a bureau of this kind, because so few practitioners take sufficient interest in the subject of mental diseases. When I am called in consultation in mental cases, the statement is invariably made to me, "Doctor, this is a branch of medicine that I do not know anything about; and I am perfectly willing that you should be the one to tell us about it." They do not hesitate to make a statement to that effect to the family, also; but, after all, it is worth while for the general practitioner to know something of mental diseases. If he cannot make a diagnosis, the homœopathic physician has, at least, the advantage that he can prescribe the indicated remedy intelligently. If he takes pains to find the symptomatology and study his remedy, he can get results. I was particularly impressed with two remedies that Dr. Seitz spoke of—hyoscyamus and veratrum album., particularly the former. The results of its use in institution work



have been disappointing. I tried it with various potencies; and I believe that it is the early cases—those seen in general practice—where the good effects of this remedy can be noted. When there is excitement, belladonna and stramonium should be thought of. In differentiating these remedies, a point to be remembered is that in the belladonna patient the excitement is marked; the patient is on the move; is inclined to be much disturbed; he may bite, kick, strike, and so on; and he may have hallucinations—that is, he is dominated particularly by false hearing. The stramonium patient, on the other hand, has a changeable disposition, at one time happy, another time sad. He is prone to have hallucinations of sight.

There is another remedy, pulsatilla, which will be disappointing if prescribed upon the basis of depression only. However, if the totalities of the symptoms are combined, the physical with the mental, the patient will be relieved of both the depression and physical conditions. For example, in pelvic or menstrual disturbances, gastro-intestinal and catarrhal conditions, you will absolutely get results. In prescribing the homœopathic remedy, the study of the patient's temperament, personality and disposition is an important factor. Two suggestive remedies are *nux vomica* and *bryonia*.

There is a type of mental patients that the physician should observe early, that of *dementia præcox*. Those manifesting lack of mental stability who are seclusive—of whom we speak of having a "shut in" personality—are indifferent and apathetic. This form of mental disease appears frequently during the adolescent period. These patients cannot keep up with their work at school, or adhere to one line of occupation; and, therefore, do not hold their positions, in this way showing lack of stability. These are the cases that the general practitioner should recognize early and do something for. I would suggest the study of *gelsemium*, phosphoric acid and picric acid in this connection.

Dr. Seitz is to be commended for his insight into the application of the homœopathic remedy in general practice for the treatment of early mental manifestations. I wish there were more like him.

DR. JOHN V. ALLEN, Philadelphia: It gives me great pleasure to come to a society meeting and hear a paper like that. I think that we ought to have more of this kind of papers at our homœopathic meetings. If this bureau were a scientific bureau which was changeable, every year or two, in the so-called cures—or, I might say, in the results—obtained, perhaps the hall would be filled.

I think that the mental conditions, the idiosyncrasies of

the individual, are the symptoms to prescribe for. I like to get out the mental bent, and also the idiosyncrasies of the patient; because all patients have their peculiarities, even if it is only in the voice or the walk, or something of that kind.

The sulphur patient is one of those dirty fellows that you know at once is a sulphur patient when he comes to your office.

Regarding the fear of death in veratrum, when I went to college, a professor wanted to instil that symptom of the fear of death into the minds of his students. He illustrated it by a case. He said that he had been called in the middle of the night to see a prominent actor, who was ill with delirium tremens. He went to one of the best hotels in the city, and found the man walking around the room and thinking that he was going to die. He said, "I am going to die; I cannot live." The doctor said, "How do you know?" "The devil tells me," the actor replied, "and I know that there is no way that I can get well." "When are you going to die?" the physician inquired. He said, "To-night." "Have you any idea at what time?" asked the doctor. "At about 3 o'clock," the man answered.

The doctor put up some aconite and gave a dose to the actor. He then waited a while, talking. The man quieted down and commenced to laugh, and said, "There they go." The physician asked, "Who?" "The evil spirits," he replied; "they say there was no use in staying, because they said, 'Here comes that damned homœopathic doctor, with his little pills.'"

The idiosyncrasies of the individual are the marks that we ought to study. My association in early practice with such men as Dr. Raue's father and Dr. Lippe gave me a good many points that were interesting and lasting. We had a meeting of the American Hahnemannian Association at Long Branch in 1882. I was talking to Dr. Lippe and Dr. Brown, of New York, a cousin of Dr. Nash. Brown was a big, tall man, with broad shoulders and a long beard down to his waist line. While Dr. Lippe and I were talking, Dr. Brown kept stroking his long beard; and when he got to the end, he twisted it. He was a confirmed atheist, and wanted everyone else to be. Dr. Lippe said that he needed antimonium crudum, and said, "I bet Dr. Brown has corns." I said, "I will find out." I said to Dr. Brown, "Are you troubled with corns?" and he replied, "Yes, I have them between the toes, and also on the bottom of the feet." I told Dr. Lippe, and he said, "He is an antimonium crud. patient. When you see a man stroke his beard and twist it at the end, he has corns and needs antimonium crud." This shows how Dr. Lippe watched the individual and prescribed for him, sometimes without asking a question. I was

going out with Dr. W. J. Guernsey, who had rheumatism of the arm and shoulder and a very bad cough, and whose family were tubercular; and he said, "I think I will ask Dr. Lippe to prescribe for me." He did so, and Dr. Lippe asked, "What is the matter?" Dr. Guernsey told him about the pain in the right shoulder, and said, "I cannot sleep at night, and have to get up and move around." Dr. Lippe said, "You have a bad cough and raise mucus?" "Yes," Dr. Guernsey replied. "Did you take magnesium carbonate?" inquired Lippe. "No," said Dr. Guernsey. "Why not?" Lippe asked. "I did not know that it was indicated," answered Dr. Guernsey. Dr. Lippe said, "Whenever you have a patient, no matter what the trouble is, if he gets worse after he lies down and has to walk the floor at night, and is relieved thereby, always give magnesium carbonate." Dr. Guernsey took it and got better; and after a few weeks, the bronchial condition cleared up.

Dr. Lippe laid great stress on the individuality of the person; and if we would study the patients more, and their dispositions, we should be more successful in prescribing.

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### THE CHOICE OF THE ANESTHETIC

BY EVERETT A. TYLER, M.D., PHILADELPHIA, PA.

(Read before the Clinico Pathological Society, Philadelphia, Pa., February 2, 1922.)

SUCCESS in the operative field of surgery is dependent on team-work. Success not only includes the result to be accomplished, but also the patient's comfort while such result is being achieved. One of the pillars on which this success rests is the choice of the anesthetic agent or agents. The latter often implies the choice of the anesthetist.

Why have a choice of anesthetic agents? Why not stick to one drug administered in one way only? The latter procedure is no more sane to me than the use of one drug for every case of pneumonia, or the use of a pair of scissors for every operation. There is no single anesthetic agent which is suited to all cases, hence it is often necessary to employ more than one drug at a time. We believe in suiting the anesthetic to the patient. In order to do this intelligently, we must first know something of the physiology of the drugs; we must know the condition of the patient as accurately as possible, and the operation to be performed.

Let us begin with our old friend, ether. It is a lipid

solvent. Its union with a cell produces an anoxemia, due to the increase of the H-ion content. Ether stimulates, depresses and finally paralyzes the entire nervous system. It produces some changes in the kidneys, liver and adrenals, and in prolonged anesthetics it causes cytological changes in the brain cells.<sup>1</sup> It has a marked irritating effect on the respiratory passages. The red blood cells are broken down; the blood pressure is first raised and then falls; the fall persisting for some time. Acidosis of a varying degree of intensity and duration, dependent on the length and depth of narcosis, follows its administration.

Chloroform is likewise a lipoid solvent. Unlike ether, it is a depressant, thereby causing a primary fall of blood pressure. It causes fatty infiltration of kidneys, liver, adrenals and heart muscle. In some cases it produces central lobular necrosis of the liver.<sup>2</sup> Death has frequently been caused by ventricular fibrillation during light anesthesia.<sup>3</sup>

Let us next consider nitrous-oxide. This drug produces anesthesia by excluding oxygen from the red-blood cells first and eventually by replacing the oxygen of the tissues; thus producing a cell anoxemia. Thus we have an increase in the H-ion concentration of the blood and a decrease in the reserve alkalinity of the blood, but the total decrease being less under nitrous-oxide than under ether.<sup>4</sup> The combination of nitrous-oxide with the tissues and blood cells is very unstable and is immediately broken up on the exhibition of oxygen. Its effect on the brain cells of a tired animal is identical to that of normal sleep. It is almost a specific against shock.<sup>5</sup> Recovery from this drug is rapid and is attended with a minimum amount of discomfort. As nitrous-oxide is always administered with oxygen, there is always a specific at hand to offset its action, if necessary.

A drug we use little in this hospital is ethyl chloride. On account of the muscular spasms or the cardiac syncope that results from pushing this drug to a sufficient degree of narcosis in prolonged cases, it is better adapted to short anesthetics, or as an induction for ether anesthesia. It is also used in combination with ether and chloroform in the form of anesthesiol. The latter combination is often used as an adjuvant for semi-open gas anesthesia.

The action of local anesthetics you all know. Outside the field of nose, throat and eye work and minor surgery,

its use is distinctly limited to selected cases, unless used in conjunction with a general anesthetic. The mental condition of the patient greatly affects its selection. A great objection in abdominal work is that frequently traction is made on a tissue the whole of which is not completely anesthetized, thereby producing discomfort or even coughing. Sometimes it is even necessary to resort to general narcosis to stop the cough, or quiet the patient.

Spinal anesthesia we shall treat in few words. To our mind the chances for post-operative complications or even death are so great, that we believe it should not be used, except in very exceptional cases. A patient must be able to stand a fall in blood pressure of fifty points in order to safely withstand this anesthetic. If a patient can not be carried through a scientifically administered gas oxygen anesthesia, in the majority of cases, they will not be able to stand the operative procedure for which you would have to use a spinal anesthesia.

Recently Meltzer, of the Rockefeller Institute, produced anesthesia by the intravenous use of magnesium sulphate. While we do not believe that this drug will supplant the established anesthetic agents, yet we believe it is going to prove a valuable synergist. It has an inhibitory action on the entire nervous system. Gwathmey now uses 200 c.c.'s of a 4 per cent. solution by rectum, together with hypodermic medication and nitrous-oxide, and is able to get through prolonged abdominal operations with one or two drachms of ether. (Gwathmey does not use an apparatus with which gas can be pushed to obtain abdominal relaxation.)

Having now briefly considered the action of our anesthetic agents, we are ready to study the patient. The question of age comes first. Contrary to former teachings, we have used ether without any ill effects in cases of 60 hours old up to 90 years. The newborn tolerate ether well, reacting from it usually without vomiting. We have noted this particularly in cases of congenital pyloric stenosis. Chloroform has been recommended for the extremes of life, but we do not like the post-operative possibilities. Dr. Boyle, of London, recently reported a case in which a child died about 12 to 18 hours after a five-minute administration of chloroform. The post-mortem findings were those of typical chloroform poisoning. Unfortunately, the administration of oxygen does not lessen the chances for these post-operative complications.

Nitrous-oxide-oxygen also can be used within the same age limits. We have not had the privilege of using it under one year or over eighty-five, but we expect to use it more in the future, especially in children. In the young and very weak, it should be administered only with an apparatus that puts no strain on the respiratory mechanism; in other words, an apparatus that delivers the gases directly to the patient's nose in such quantity that it is not necessary for the patient to draw the gases through tubing or from a large rebreathing-bag.

The mental condition of the patient should next be noted and promptly treated. The degree of apprehension varies considerably from the very slight to psychic shock. The true degree is often concealed by force of will, but it is shown as soon as the patient loses consciousness. Hence, we believe in the use of morphia in some form in all adults, unless specifically contra-indicated. Even in children from ten years up we do not hesitate to use it. At the present time we are using our morphia in a 25 per cent. solution of magnesium sulphate (2 to 4 c.c.) for its inhibitory action. (This prolongs the action of the morphia, and does away with vomiting due to the same.) Recently we have begun to use a combination of hyoscine and morphia as a preliminary to prolonged gas anesthesia. The contemplated dose of the preliminary medication is frequently split in two or three doses; the first dose being given one and one-half hours before operation. By doing this we can get the desired degree of preliminary narcosis and also note the signs of any idiosyncrasy, and then withhold any subsequent dose. In a few cases we have used the rectal injection of magnesium sulphate in addition to our medication. So far we have been very much pleased with the results.

As we said about two years ago in a paper presented before the State Society, the remainder of the pre-operative examination should be made by the medical and laboratory men. Especially do we feel the need of such help when it comes to the examination of the heart and lungs. Lacking such assistance we believe it should be made by the anesthetist.

Generally speaking, a patient who can go about in comfort can take an anesthetic. But we have tried to get some idea of the condition of the heart, principally by the use of

the blood pressure apparatus and by auscultation. The compensated regurgitant lesions will readily stand an ether anesthesia. But for the stenotic lesions and the myocardial degenerations we prefer a gas anesthesia. Struggling should positively be eliminated, and of that you can not be as sure with ether as with gas. There is frequently a concomitant kidney lesion, which would all the more call for nitrous-oxide-oxygen. A proper preliminary medicament we believe to be especially indicated. Magnesium sulphate has given us very good results in maintaining a slower heart rate and a more even blood pressure than we were able to obtain without it. A recent case, 58 years of age, in which we used this with nitrous-oxide anesthesia had a myocardial lesion with rapid heart and bad blood pressure ratio. The operation was a resection of the head of the femur. We were able to carry this patient through about one and one-half hours' anesthesia with a pulse of 84, and only very slight change in the blood pressure. Chloroform we believe to be absolutely contraindicated in cases with bad hearts, because of its effect on the heart muscle, the kidneys and adrenals, and also because of the possibility of ventricular fibrillation.

It has been taught that nitrous-oxide could not be used in cases of high blood-pressure, but with this we do not agree. We have taken the blood pressure during operations on patients with high blood pressure, some over 200 systolic, and have not noted a rise even when cyanosis was produced. Holding the breath will, of course, cause a rise. In one case, the pressure was 204 before administration of the anesthetic, and this pressure was maintained for twenty minutes until the operative procedure caused a slight fall. In another case in which there was a pressure of 170 and a pulse of 66 at the start, the pulse rose to 110 during an amputation above the knee for thrombosis of old age. Coincident with the rise in pulse rate the pressure rose to 230 systolic, but with the resumption of a normal pulse rate, the blood pressure returned to about the same as at the beginning. McKesson investigated the effect of nitrous-oxide on blood pressure in about 6000 cases and could not get more of a rise than is produced by straining at stool. Ether, you recall, causes a rise of blood pressure first, then after a prolonged administration a fall, which will persist for two or three days. When a fall in blood pressure occurs after gas it is not so great or persistent

as with ether. Chloroform causes the greatest fall in blood pressure of the three drugs.

In lesions of the lungs, ether is contra-indicated except by rectal or intravenous methods—on account of the irritation produced. Nitrous-oxide-oxygen is certainly the anesthetic of choice, especially in empyemas, where a lung inflation can be done by the gas machine; thus shortening convalescence. Where tuberculosis exists, even in latent form, any operative procedure may aggravate the lesion. If nitrous-oxide is used there will be no added irritation of the anesthetic. Chloroform can be used, unless an extreme weakened condition of the patient, or some other complicating factor, should contra-indicate it. In asthmatic cases, rectal ether or gas can be administered safely. In cases with acute upper respiratory infections, there is a chance of post-operative lung complications by aspiration, no matter what anesthetic is used, but the field will not be prepared for the germs if gas is used.

The most frequent condition of the blood calling for special attention from the anesthetist is anemia. The greater the degree of anemia, the greater the indications for nitrous-oxide. In the past we have used ether and oxygen in these cases with good results, but in the future our choice will be gas. As we noted above chloroform and ether, being lipoid solvents, interfere with cell oxidation, hence in cases in which this function is already interfered with, we should use an anesthetic that vitiates this function to the least possible degree. Furthermore, the administration of gas and oxygen carries with it some of the needed element, the more so since we oxygenate our cases at the end of the operation.

Upon examination of the urine or blood, if a diabetes or acidosis is found we have only one anesthetic, namely, gas. This choice is very obvious, when we consider the physiology of ether and chloroform. If the examination of the urine reveals a kidney lesion of some moment, there is only one general anesthetic—gas. In cases of kidney lesions, complicating prostatic disease, it is essential to maintain the blood pressure, even though it may be high. There is only one way to accomplish this, and that is with nitrous-oxide. For some time we have been anesthetizing all our prostatic cases with gas with what we consider very good results.

Recently we have added the metabolic rate to our preliminary examination. At present we are making it only in



the suspicious cases, but we hope the day will come when it can be made in all cases. In cases of high metabolic rate the preliminary medication is of very great importance. While we have used ether in our cases so far, we expect, in the near future, to be using gas. The oxygen hunger exhibited by these cases seems to us to call for an anesthetic rich in this substance. A great many surgeons are operating their thyroid cases under local anesthetics, or local combined with a gas analgesia. With the possibilities of collapse of the trachea, or other emergencies that do arise in these cases, it is far better to have the patient unconscious. It is highly important in these cases to have no excitement whatever, and no increase in pulse rate, hence our choice of gas. We have never seen chloroform recommended for these cases; the reason for which we believe is obvious. The cases with decreased metabolic rate, we do not recall having to anesthetize, so we can present no observations on same. Neither have we seen anything in the literature.

In the foregoing we have outlined what can be done with the different anesthetics. It will suffice to say here that if gas is the indicated anesthetic, there is no operation that cannot be performed under it if the proper apparatus is at hand, and if the anesthetist is properly trained. Even when not specifically indicated, we do not see any reason for the use of any anesthetic other than gas in such operations as curettage, breast amputations, amputations of extremities and numerous minor operations. In laparotomies with the technique outlined above, we have been able to anesthetize with gas, to the complete satisfaction of all concerned. Chloroform has held the fort quite successfully in obstetrical analgesia as has ether as the general anesthetic for tonsillectomies. However, in many places these drugs have been wholly replaced by nitrous-oxide.

In conclusion let us say:

1. That *the* anesthetic of the future is nitrous-oxide-oxygen combined with proper synergists.
2. That we shall see less ether and chloroform used by the specialists in anesthesia.
3. That with the modern apparatus in skilled hands, nitrous-oxide is by far the safest anesthetic.
4. That with the proper apparatus and the proper preliminary medication all the demands of the surgeon can be

met and the patient's comfort and health conserved to the highest degree with nitrous-oxide-oxygen anaesthesia.  
2104 Chestnut Street.

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#### ACIDOSIS: A CLINICAL STUDY

BY OLIVER H. PAXSON, M.D., PHILADELPHIA

(Read before the Homœopathic Medical Society of Germantown.)

WHAT is acidosis? As an old enemy with a new name, a definition is first in order. It is not a disease. The term acidosis may be applied to those conditions in which a disturbance of the acid-base equilibrium may arise from any cause. Acid ions are present in the body in relative excess, thus bringing about an actual depletion of the alkali reserve of the body. Acidosis is not present unless there is this depletion, notwithstanding there may be an excess of acetone bodies in the blood. If the acetone bodies are neutralized and eliminated in the urine, Acetonuria results, but not Acidosis. In acidosis there may be a fatal termination with no increase of acetone bodies, either in the blood or urine.

Another definition is—by acidosis it is not meant that the reaction of the blood has changed to any appreciable extent, but that excessive amounts of acid radicles, other than carbonic acid are present in the body.

These definitions are most important to one who is studying the metabolism of the human body and are of great interest to the clinician. But as clinicians we can better understand the term acidosis by working out the problem in other words.

To do this, let us first consider the diseases in which it is most likely to be present, or rather known to occur oftenest, *i. e.*, diabetes, nephritis, recurrent vomiting of children, pernicious vomiting, severe diarrhoea, and inanition as from starvation or other causes.

Having in mind these diseases and conditions, the next point is to find *some definite evidence* indicating acidosis is present. This evidence may be found, in changes in the blood, in changes in the respiration, and in changes in the urine.

The changes in the blood, while furnishing the most direct and the most convincing evidence of acidosis, requires a relatively difficult technic to determine. The reaction of the blood in the body is not changed in acidosis, but, there is a shifting of the relation between the amount of carbon dioxide and the amount of other acid radicles. *Carbon dioxide is diminished* while the other acid radicles are increased.

To determine this relative carbon dioxide content in the blood is the next step and brings us to the consideration of a very important part of the problem—Respiratory Changes.

Clinically, we observe hyperpnea as a symptom of this condition (hyperpnea is moderate exaggeration of the respiratory movement—with increased frequency, and without cyanosis).

It is known that a very slight increase in the acidity of the blood stimulates the respiratory centre, and as a result of this stimulation the pulmonary ventilation is increased and the tension of the carbon dioxide in the pulmonary alveoli is diminished. It is also known that alveolar air, when properly collected is essentially air which has come in equilibrium with the venous blood in the pulmonary capillaries. The tension of carbon dioxide in the alveolar air is approximately that in the venous blood. (Venous blood contains 46 to 48 per cent. of carbon dioxide by volume.) There is a good deal of evidence that the tension of the gases in the blood may be of more importance than the actual quantity as far as their biological significance is concerned. The tension is, to a certain extent, independent of the quantity.

Determination of the tension of carbon dioxide in the pulmonary alveoli, therefore, furnishes evidence as to the activity of the respiratory centre, and thus indirectly, as to the amount of incombustible acid in the body.

CHANGES IN THE URINE IN ACIDOSIS.—The recognition of these changes is a matter of the estimation of the ammonia content. The average daily ammonia excretion in the urine, on a mixed diet, is 0.7 gram.

Most organic acids of dietetic or metabolic origin are changed within the body to carbonates; these carbonates are partly excreted in the urine as such, partly as  $\text{NH}_4$ ,  $\text{CO}_3$ .

The ammonia output is as an index of pathological acidosis.

In pathological conditions of acidosis, of which diabetes acidosis may be taken as the type, the excess acid, B oxybuturic acid and diacetic acid, must be rendered harmless. To meet this need ammonia is available and combines with the acids thus sparing the fixed cations of the tissues. In such conditions the ammonia output may rise to 8 grams or more a day. In general any rise in the output above 2 grams a day may be assumed to be due to acidosis. (See Folin's test method for quantitative determination.) That the ammonia test may be a failure in acidosis is evidenced by finding in severe renal disease acidosis may be present and yet the amount of ammonia may be normal or diminished.

In such a case apparently the kidneys have lost to some extent the power to excrete ammonium salts. Similarly, in the fatal stages of diabetic acidosis, the excretion of the abnormal acids may not keep pace with their formation in the body, so that urinary examinations fail to indicate the degree of acidosis.

Alkali tolerance is another test. When four to five grams of sodium bicarbonate are taken by the mouth by a normal individual the urine usually becomes alkaline for several hours.

In certain pathological conditions little or no reduction in the acidity of the urine follows the administration of this amount of sodium carbonate. In conditions of pronounced acidosis large quantities of alkali must be given before the urine becomes alkaline. The amount of alkali thus administered may be used as a rough measure of the degree of acidosis.

Normally, 5 to 10 grams of  $\text{NaHCO}_3$  are required.

In mild acidosis, 20 grams;

In severe acidosis, 30 to 40 grams;

In extreme acidosis, 40 grams or more;

In coma (if excreted), it is often non-neutralizable.

You will, from these various tests, perceive that the object is to determine, either directly or indirectly, the relative acidity of the blood.

The apparatus devised by W. McKim Marriott, M.D., for the determination of alveolar carbon dioxide tension is a very simple one as you may now see from the demonstration which I will now give.

Marriott says, "In acidosis the tension, that is to say, the effective concentration of carbon dioxid in the alveolar air, is diminished. By the determination of this tension the diagnosis of acidosis may be made, the degree of severity estimated, and the results of treatment followed. The determination may be carried out in a few minutes' time and with no especial discomfort to the patient. Two procedures are involved: The collection of the alveolar air, and the analysis of the sample."

From this point we take up the consideration of acidosis as a link in the chain of life and death.

Considering several diseases in which acidosis may appear, the first one to be mentioned is diabetes.

A case of diabetes known to be such, may be progressing normally, when, because of overwork, error in diet, mental strain, etc., the patient will have a sudden attack of headache, of vertigo, general weakness and somnolence. Or the case may suddenly become unconscious, with long drawn inspiration, with forcible expiration, the breathing rather hurried, the patient in a typical condition of "air-hunger." He may be aroused but will immediately fall asleep again when left alone.

An individual who has true diabetes mellitus is in danger of some one of the sudden, serious and often fatal complications.

Cases may exist for years without the knowledge of the person affected and without the possibility of the doctor in attendance making a diagnosis, unless he makes a routine examination of the urine.

In fever the evidence of acidosis is frequently present, acetone bodies may be found in the urine, the urinary ammonia is often increased and the tension of carbon dioxid in the alveolar air is often diminished. In so far as this acidosis depends upon the acetone bodies it is probable that its causes, like that of most of the other forms, is the inanition with increased combustion of fats, and diminished combustion of carbohydrates. Whether there are other sources of the acidosis of fever has not been settled.

Complete starvation is accompanied by a more or less marked acidosis, which develops as the glycogen reservoirs become exhausted and the body is thrown on a fat-protein metabolism.

Acetone bodies appear in the urine and other evidences of acidosis, such as an increase of ammonia in the urine and

a reduced tension of carbon dioxid in the pulmonary alveoli are present. Fasting and diseases acting, so far as food is concerned, in the same way, and pernicious vomiting, are likewise sources of acidosis through partial or complete inanition.

**PERNICIOUS VOMITING.**—In the true toxæmic variety the condition is associated with a profound disturbance of metabolism, which is manifested by striking changes in the urine, and in fatal cases, by the presence of definite lesions in the kidney and liver.

Cyclic vomiting of the middle period of childhood is another manifestation of profound disturbance of metabolism with faulty elimination, resulting in an acute autointoxication. It is associated with the presence of acetone and diacetic acid in the blood and urine, and the carbon dioxid tension of the alveolar air is lowered.

Acidosis in nephritis is thought to be present in the uremic state—as evidenced by a decrease in the  $\text{CO}_2$  tension of the alveolar air and by increased alkali tolerance present in a small proportion of cases.

**CARDIAC DYSPNOEA.**—Certain workers have pointed out that the dyspnoea of patients with cardiac insufficiency is frequently associated with an abnormally acid condition of the blood. It seems probable that while the acidosis is a contributing factor in the production of the dyspnoea of cardiac insufficiency, it is not the sole or chief factor.

**REASONS.**—(1) The degree of acidosis is rarely extreme; (2) equally marked degrees of acidosis in diabetes cause an increased pulmonary ventilation (hyperpnea) with no respiratory distress (dyspnoea); (3) the administration of sufficient alkalis to cause an alkaline urine does not usually relieve the dyspnoea to any material degree; and (4) no definite relation exists between the degree of dyspnoea and the degree of acidosis.

**PEPTIC AND DUODENAL ULCER.**—There are occasional cases of peptic and duodenal ulcer in which alarming and threatening acidosis develops.

Cases of extreme hyperacidity and hypersecretion in which there is uncontrollable vomiting are most likely to develop acidosis.

**THE ALKALI TREATMENT.**—When acidosis is present, treatment should be prompt and energetic. This disturbed acid-base equilibrium should not be allowed to continue. In

order to bring about a restoration of normal conditions alkali is necessary. This is best administered in the form of sodium bicarbonate. When the acidosis is of a mild degree (the carbon dioxid tension 39 mm. or more) in the absence of vomiting, it may be given by the mouth.

In diabetes, patients may live for several years up to their total carbohydrate tolerance and with severe acidosis, provided the acids are excreted. The method to secure this acid-base equilibrium, is the constant administration of sodium bicarbonate and the duration of life in these patients often depends upon the ability to take the large doses necessary. It may require from 15 to 45 grams a day.

That this method of treatment has a wide range of application, both as a prevention of, and as a treatment for acidosis is evidenced by the various writers who advise it.

In surgery it is recommended by G. W. Crile as important as a prevention of acidosis in major operations, and in all operations upon people with damaged glandular organs or serious constitutional disease. It is further recommended that a study of the alveolar air is valuable in determining the anesthetic to be used.

Cognizance should be taken of the extensive use of alkalis by the gastro-enterologists. Sippy's treatment for peptic ulcer is the giving of alkalis from the beginning of the treatment.

While the acidity that he controls is the hyperacidity of the stomach, why, may we not ask, is there not a more far-reaching effect, as well, as evidenced by the effect upon the CO<sub>2</sub> tension of the alveolar air? If the alkalinity of the urine is worth anything, as evidence of the effect of bicarbonate of soda, there must be very positive change in the acid-base equilibrium of the blood in such cases.

The obstetrician, Williams, considers bicarbonate of soda useful in hyperemesis.

There are other diseases or conditions for which the alkali treatment is recommended, but I will not mention them as this is a fitting point to ask for a discussion of the subject from those who are using this method of treatment.

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## EDITORIAL

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### SIXTH EDITION OF THE ORGANON OF MEDICINE

BY SAMUEL HAHNEMANN. TRANSLATED BY WILLIAM  
BOERICKE, M.D.

THE long looked for and anxiously awaited sixth edition of the *Organon* is at hand.

To Dr. William Boericke, of San Francisco, Cal., the profession owes a debt of gratitude which it never will be able to fully repay.

Nearly half a century ago efforts were made to secure the manuscript from Madam Hahnemann, only to fail. After her death renewed efforts were made, which in like manner proved futile. It remained for Dr. Boericke, about two years ago, to successfully arrange for the purchase of the much coveted manuscript of this most valuable work—finished shortly before Hahnemann's death. The *Organon* truly stands today as the most philosophic and scholarly exposition of the underlying principles governing the art of healing.

Worthy of more than passing note as an expression of Hahnemann's progressive and critical spirit, is the fact that in each of his five (now six) editions of his *Organon*, we find that experience, as it ripened, opened to him avenues to new truths, or enabled him to clarify his expression of the old. His was a continuous progress toward perfection. In the words of Paul he could say: "Not as though I had already attained, either were already perfect; but I follow after if that I may apprehend." Following the example set by Paul in things spiritual, Hahnemann steadily pressed forward toward the mark which he was striving to attain, TRUTH! demonstrable truth. This fact becomes quite patent in reviewing the entire six editions.

Having before me, in the German original, the first five I am deeply impressed with his rigid determination to unequivocally present his exact meaning in every instance. In fact, in each new edition he so changed the phraseology and



incorporated newly ascertained facts and experiences as to make the text strictly conform to nature's latest revelations.

In the preface to the first edition he opens with these words: "According to the testimony of all ages no occupation is more unanimously declared to be a conjectural art (*ars conjecturalis*) than is medicine."

The first edition he entitled, "*Organon der rationalen Heilkunde*." In the subsequent editions he changed the title to "*Organon der Heilkunst*." Referring in the third edition to changes made, he says: "I have not refrained from making any alterations and emendations suggested by increased knowledge and necessitated by added experience." In the fifth edition he notes correction of advice formerly given. In fact, the changes in the various editions are too numerous to note specifically. Let it be remembered, however, that the fundamental truths enunciated in the earlier editions were but more fully expounded and elucidated; and that any lack of clearness or of definiteness in verbal expression was remedied so far as possible, by Hahnemann, in each new edition. Generic truth remained as originally taught.

In reviewing Hahnemann's work we must note the fact that his first experiment leading to his subsequent wonderful discoveries occurred in 1790. Not, however, until 1796, did he give to the profession his "Essay Upon a New Principle for Ascertaining the Curative Powers of Drugs." Nine years later (1805) he published the "*Fragmenta de Viribus Medicamentorum Positivis*." Five years more elapsed before the first (1810) edition of the *Organon* appeared. Twenty years devoted to the most exact philosophic study and research, before he felt satisfied to present the ripe fruits of his labor to the world. Eleven years more of critical study and research were employed before he was prepared (1821) to offer to the profession his philosophy as related to Chronic Diseases. Thus we see it was neither hasty nor superficial empiricism. No! Every line bore the imprint of caretaking, painstaking, scientific accuracy. Facts and the legitimate deductions from such facts he demanded, ere a word dared be put in print.

Today we have presented to us the results of his latest and most critical labor. Dr. Boericke tells us he gives us as perfect a rendering of Hahnemann's written word as it was possible to produce. He says: "For those extensive parts in which Hahnemann made no changes whatever, including his

long Introduction, I have adopted Dr. Dudgeon's fine translation of the fifth edition, which has the distinction of perfect English with a remarkable, faithful adherence to the peculiar Hahnemannian style and setting."

Many minor verbal changes that clarify or amplify the thoughts and views expressed in the earlier copies, occur in the sixth edition. Some paragraphs have been entirely rewritten, some few radically emended.

Hahnemann explains afresh his views as to: "What is dynamic influence—Dynamis—and in Paragraphs 22 and 29 will be found his last views on the life principle, which term he uses throughout, preferably to vital force as in former editions."

His treatment of Chronic Diseases as portrayed in Paragraph 282 and footnote thereto shows quite a radical change, especially in the matter of dose and repetition of the same.

Regarding Hahnemann's views as to the nature of the causative factors in disease, we can but wish he had lived to see the wonderful changes wrought in our knowledge of pathological processes, especially since the development of the physiology of the endocrine glands.

One of our most brilliant endocrinologists, commenting upon the symptomatology of Psora, as recorded in the "Chronic Diseases," remarked to the reviewer: "It is truly marvelous! Hahnemann was a hundred years in advance of his times. It took science a century to explain what Hahnemann foresaw." In fact, the endocrines have opened the door to a scientific explanation of Hahnemann's Psora theory, as well as to a clearer understanding of the dynamis or life principle, which, under the term *vital force*, so often has been criticized by opponents of the theory. Dynamis, a force subtle as electricity, potent as the harnessed current, universal as the air we breathe, pervading all organized matter and controlling all chemical affinities and reactions within the living organism; without which life ceases, death ensues.

When we consider that practically every real advance made in therapeutics, during the past two decades, has shown a marked leaning toward a final acceptance of the three salient factors laid down by Hahnemann, *i. e.*, the law of similars, the single remedy, and the minimum dose, in addition to a practical adoption of his masterful advice as to the "*individualizing examination of a case of disease*," Paragraphs 83 to 104,

all so frequently to be noted in present day medical literature, we surely may hope that in the near future a more general acceptance of Homeopathy will be accomplished.

The present translation, conveying as it does Hahnemann's latest views upon every department of the Homœopathic Healing Art, should be in the hands of every English speaking student and physician, and *every college should include it among the absolutely essential text books for its students*. It is worthy in every respect, and should be treasured by every disciple of Hahnemann throughout all time—not only is it the last word from Hahnemann, but it is a most accurate translation and faithful rendering of the spirit of the Master, by a loyal and conscientious disciple.

Typographically this edition presents an excellent example of the printer's art, and in binding is satisfactory to both eye and hand.

We must congratulate Dr. Boericke on his success in securing to the profession such a treasure, and the publishers for presenting the volume in such satisfactory form.

AUG. KORNDORFER.

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### GONOCOCCIC INFECTIONS

THERE was a time, fortunately long since passed by, when gonorrhoea was regarded as an insignificant disease, said by the thoughtless to be of no more importance than an attack of measles. The rude awakening first came over fifty years ago, and yet it is only within the last few years that the public and the profession alike have come to a practical realization of the truth. In the late '70's, that brilliant diagnostician, Jacob M. Da Costa, taught his classes respecting this subject in the following aphorism: "I tell you, gentlemen, that while syphilis has slain thousands, gonorrhoea has slain its tens of thousands." It was but a few years later that Noeggerath advanced his ideas concerning the dangers of what he was pleased to call "latent gonorrhoea." Both of these physicians based their teachings upon clinical knowledge only. The gonococcus was not discovered by Neisser until five years later than the promulgation of the "latent gonorrhoea theory." For probably a hundred years, the homœopathic school of physicians has shown also by deduction from clinical observation, that gonorrhoea was by no means the simple matter which it had been supposed to be. Like many real advances in medicine, the teach-

ings of DaCosta and Noeggerath were received with incredulity, if not with actual ridicule.

Today the thoughtful physician looks upon gonorrhoea as a most serious disease. The Government has taken the matter in hand, and in a campaign of education is making every effort to rouse the public to the seriousness of the situation. New aphorisms have been formulated: "Once a gonorrhoeic, always a gonorrhoeic;" and "while syphilitics should not beget children, gonorrhoeics should not marry." From the obscurity of a corner in a textbook on surgery, the subject of gonorrhoea has risen to the dignity of special articles and high position in modern textbooks on general medicine.

It is more than likely that the end of our knowledge concerning the serious influence of gonorrhoea on human life and health has not been reached. We thought we had made great advancement when we had determined that all ophthalmia neonatorum and the vast majority of cases of sapingitis were of gonorrhoeal origin. We are but on the threshold of our knowledge as to the constitutional infections, the arthritides, the septicaemia, the endocarditis, and the dermatoses.

When a wave of discovery sweeps over us, we are too apt to permit it to wash away many excellent and practical ideas. So it is with the modern theories concerning the constitutional nature of gonorrhoeal infections. The competent genito-urinary surgeon has the right idea when he teaches that in these infections there is a focus which maintains the supply and keeps the system in ill-health and that no case of gonorrhoeal arthritis or other disorder is properly treated until such focus is removed. It may be well enough to utilize the bacterins and our remedies, but it is unwise to use them alone. The old therapeutic doctrine "*tolle causam*" must ever be kept in mind. Remedies are invaluable, but to obtain the best results from them, the cause of disease must be removed.

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#### AN OPEN LETTER FROM THE DEAN OF HAHNEMANN MEDICAL COLLEGE

THE RUFUS B. WEAVER CHAIR OF ANATOMY—EDITORIAL  
COMMENTS

THE following letter, received from Dean Pearson, involves general principles which apply to all medical educational institutions, and especially to our homœopathic colleges. It

is well worthy of serious thought not only by the graduates of Hahnemann of Philadelphia, but also by all others. We take pleasure, therefore, in giving it editorial space and adding thereto remarks of our own:

Every Homœopathic physician and especially every Alumnus of The Hahnemann Medical College of Philadelphia should appreciate the imperative and vital need of maintaining The Hahnemann Medical College indefinitely. The Trustees, Faculty, Alumni and students are all working towards this end.

Adequate provisions for teaching the non-clinical subjects is now the most imperative need of the college. Through the kindness of Mr. Walter E. Hering, the late Dr. Bartlett Paine, class of 1877, the late Mrs. Mary E. English, the Class of 1896, The Woman's Homœopathic League, The Alumni Association of Northeastern Pennsylvania and others, a considerable sum of money has been made available for the assistance of worthy students who would be unable to obtain a medical education without financial assistance. This insures a perpetual source of income for deserving students and will enable many young men of ambition and character to become Alumni of The Hahnemann Medical College of Philadelphia.

The late Mrs. Mary E. English has provided generously for the installation and perpetual support of our Laboratories of Physics and Chemistry. Mr. Walter E. Hering has generously supported The Hering Laboratory and the College.

The Department demanding the greatest financial support is the Department of Anatomy and it is hoped that in some way an endowment of at least one hundred thousand dollars can be secured as a fitting memorial to the life work of Dr. Rufus B. Weaver. Several plans for raising this money have been suggested but it is thought that a general appeal to the Alumni will be the surest and best way of obtaining this money. It seems to me that every Alumnus of The Hahnemann Medical College should personally give something towards this fund and in addition should solicit money from patients who are charitably inclined and might be interested in The Hahnemann Medical College.

The Hahnemann Medical College and Hospital of Philadelphia has property assets of Three Million Dollars and an endowment aggregating over One Million Dollars and for the good of Homœopathy the college must be maintained on the highest educational plan indefinitely. We have already secured practically the maximum number of students that we can accommodate in our new class for next year and I can see with certainty that the student problem at The Hahnemann Medical College has been solved. If any of your patients should be more interested in the Department of Physiology or in the Department of Bacteriology and Pathology or in other Departments do not hesitate to accept their money but at the present time we hope to secure an adequate endowment for the Department of Anatomy to be known as The Rufus B. Weaver Endowment of Anatomy. Every graduate of The Hahnemann Medical College is personally indebted to Dr. Weaver for his excellent instruction and no doubt this has been of great practical value to you.

WM. A. PEARSON.  
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If homœopathic colleges are to be made stronger, it is by attention to the non-clinical branches, notwithstanding the fact that the subjects connected therewith have no bearing upon homœopathy *per se*. There is one way in which we can show our intrinsic merit in comparison with other standard medical colleges, and that is by building up such departments as anatomy, physiology, chemistry, pathology, etc., to the highest point of efficiency. We have the men who are capable of doing the work, but we lack the financial resources to remunerate such men for their patriotic labors. More than ever before adequate compensation is necessary because of the high cost of living, and the educational demands of the times. Thus far the public has not taken proper interest in anatomical teaching, but this is because they have not been educated properly. We have contended for many years that if a physician is thoroughly grounded in the fundamentals, anatomy, physiology, chemistry and pathology, and uses his knowledge with common sense, he can make a good physician of himself though weak in other branches. No better illustration of this statement is needed than the diagnostic abilities of Dr. Rufus B. Weaver himself, a friendship with whom covering a period of 47 years, has made us well acquainted. Many have been the times that we have consulted him concerning puzzling cases, and we are proud to state that he always lessened and often removed our difficulties.

*No matter how good may medical teaching be in any institution, that institution must remain weak unless its students are thoroughly grounded in fundamentals.*

It is plain, therefore, that the subject should be impressed upon those of the laity who are charitably inclined that they may realize that in no way can they do more for the benefit of humanity than by increasing the knowledge of the medical profession generally in just those directions in which it is practically weak. The endowment of a chair of anatomy, that a suitable occupant thereof may be obtained at a salary in keeping with his ability, is necessary.

Medical men themselves are fully aware of the facts we have above stated, but unfortunately have not the finances to make the endowment. They can, however, do something. Let us take Hahnemann Medical College as an example. There are at present 1925 alumni in active practice. One hundred dollars *secured* by each man will realize more than double the sum

which Dean Pearson wishes to raise. Probably half of the Alumni have a money-raising power of one thousand dollars or more without making serious inroads on the charitable public, from whom after all over three-fourths of the endowment must come.

The problem is not one for the individual to solve. Success must come from action by a large number working, not hysterically, as in a drive, but by consistent effort, well directed, over a prolonged period of time. It would hardly seem necessary to "go out to raise money." The best plan always is to keep the subject ever in mind; watch for an opportunity, and grasp it when it appears. It is the old story: "A long pull, a strong pull and a pull all together."

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**ROENTGENOLOGICAL STUDIES ON INJECTED KIDNEYS.**—Lim's observations on the nephridial system were made by injecting watery solution of barium sulphate into the ureters, pelvises and blood vessels of kidneys removed at postmortems or operations, and then examining them by Roentgenography.

Lim's findings differ from the usual descriptions of the renal pelvis and calyces in the various anatomies, but correspond very accurately with the publications of Brasch. The normal ureter has three constricted points along its course; the first being about 3 to 9 cm. from the hilus; the second at a point corresponding to the level of the brim of the bony pelvis; and the third at the uretero-vesical junction. The lumen of the pelvis shows an irregular pyramidal outline, and the most common arrangement of the major calyces is three in number, with one toward the upper pole, a smaller one toward the middle portion of the kidney and a third toward the lower pole. The minor calyces are one to nine in number extending from each major calyx.

In some cases, where the renal vessels were distended, they made pressure upon the stems of the minor calyces, which gave the appearance, in the Roentgenogram, of small calculi in the renal cortex. Another appearance simulating renal calculus is caused by the end view of a minor calyx.—*Am. J. of Roentg.*, Dec., 1921.

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**TREATMENT OF BLASTOMYCOSIS BY ROENTGEN RAYS.**—McCoy differentiates blastomycosis, tuberculosis verrucosa, lupus, syphilis and carcinoma. The lesion of blastomycosis begins as a papule, changes to a pustule and is then surrounded by other pustules, all of which coalesce and form a thick crust under which is a suppurating, granulating substance. There is considerable pain in the lesion. All the cases reported in this article, were treated by Roentgen ray therapy. The factors are: Unfiltered rays, two inch gap, six inch target distance and time sufficient to produce a second degree reaction. McCoy has had no cases of telangiectasis, even in patients re-examined years after the treatment, and claims that this is due to the low degree of penetration of the rays.—*Urologic and Cutaneous Review*, Jan., 1922.

## GLEANINGS

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### MEDICINE

Conducted by CLARENCE BARTLETT, M.D.

**A CASE OF LUMINAL POISONING.**—Phillips reports the case of a woman, aged 45 years, the victim of asthma for a number of years. After taking  $1\frac{1}{2}$  grains of luminal nightly for eight doses, she developed over the entire body a morbilliform eruption, which appeared first on the face about the eyes, and on the neck, but within 48 hours had spread over the trunk and extremities, even affecting the fingers. The face was considerably swollen, the conjunctivae were reddened, and finally the eruption on the face became confluent. There was no circumoral pallor. The lesions on the trunk and extremities were discrete and papular, and were larger than those in measles. The papules were firm to the touch, and the skin between them was reddened. There were marked burning and itching of the skin. The mucous membrane in the mouth and throat was bright red, the tonsils were somewhat swollen, and on the sides of the cheeks, between the latter and the gums, little flecks of white appeared on the mucous membrane. The tongue was dry, coated and slightly swollen. The patient complained of dryness and burning in the throat. The glands in the neck, particularly those at the angle of the jaw showed some enlargement. At the same time the patient developed pain in the epigastrium with persistent nausea and vomiting which lasted four days. There was slight distention of the abdomen, but no localized tenderness. The stools contained some mucus. The urine showed evidences of a mild nephritis. The temperature ranged from 102 degrees on the first day to 105.2 on the fourth, after which it gradually subsided. The rash paled on the fourth day and with a fine branny desquamation. The urine cleared up by the tenth day.—*Journal of the American Medical Association*, April 22, 1922.

**THE PREVENTION OF RICKETS IN THE RAT BY MEANS OF RADIATION WITH THE MERCURY VAPOR QUARTZ LAMP.**—Drs. G. F. Powers, E. A. Park, P. G. Shipley, E. V. McCollom and Nina Simmonds have made experiments of which the following are the discussions and summary: Discussions—From this experiment it is possible to say that rats fed on the rickets-producing diet (diet 3143) are protected from that disease by exposure to radiations from a mercury vapor quartz lamp. It is possible to say, further, that radiations from the mercury vapor quartz lamp affect not the skeleton alone but indeed the whole organism. While the development of a normal skeleton in the rayed animals is a "striking, visible and measurable" effect of the radiations on a single tissue, growth, good muscular development, storage of fat, improvement in the condition of the hair, stimulation of sexual development and reproductive power, are evidences that the radiations have a favorable influence upon the animals as a whole.



So far as we are able to discern, the action upon rats fed the rickets-producing diet (diet 3143) of the radiations of a mercury vapor quartz lamp in securing an efficient utilization of the substances which are directly or indirectly concerned with ossification and calcification and in promoting general bodily vigor is in no way different in respect to these matters from the action of cod-liver oil and of sunlight.

*Summary.*—1. The object of the experiments was to determine whether or not radiation from a mercury vapor quartz lamp prevent the development of rickets in the rat. 2. A diet was employed which at room light regularly gives rise to a disease identical in its essential features with rickets as seen in the human being. The diet was high in calcium, low in phosphorus and was insufficiently supplied with fat-soluble A. In other respects it was well constituted. 3. Nineteen rats were placed on the diet. Ten were exposed to radiations from a Hanovia "Alpine" mercury vapor quartz lamp for varying periods of time daily over a period of sixty-four days. Nine rats were kept under conditions of ordinary room light as control animals. 4. One of the control animals was killed after thirty-eight days; another after fifty-eight days and the remaining seven after sixty-four days. All of these animals showed gross and microscopic evidence of rickets. 5. The ten rats exposed to the radiations from the mercury vapor quartz lamp were killed after sixty-four days. These animals were free from rickets both grossly and histologically. 6. The beneficial effects of the radiations from the mercury vapor quartz lamp were not limited to the skeleton, since the condition of the rayed animals underwent a general improvement. 7. The effects of the radiations of the mercury vapor quartz lamp on the growth and calcification of the skeleton of the rat and on the animal as a whole seem to be similar to, if not identical with, those brought about by direct sunlight and by cod-liver oil.—*Johns Hopkins Hospital Bulletin*, April, 1922.

**HEADACHES OF NASAL ORIGIN.**—Among the nervous symptoms of nasal origin Watson-Williams asserts that headache is the dominant symptom, and now very generally recognized as being sometimes attributable to the nose, sometimes to ocular defects, or to the teeth. The existence of a persistent or recurrent purulent catarrh may be obvious or elicited by inquiry, but the non-purulent discharge is apt to be ignored by the patient, and must be sought for. The neurasthenic symptoms are usually worse in the morning on waking, or for the first hour or two after rising; they are often periodic, better in warm, dry weather, worse in cold, damp weather, always aggravated by intercurrent colds. But the history of the case may reveal many facts which point to a source of recurrent infection; headache or heaviness, recurring sore throats, muscular rheumatism, rheumatoid arthritis, gastro-intestinal catarrh and appendicitis are so frequently associated with a chronic sinus infection that their interdependence is sometimes hardly open to doubt. A sinus infection may be of some years' standing, and a constant source of ill health, without seriously arresting the patient's notice. Often the existence of a latent nasal catarrh can only be determined by direct inspection of the nasal passages anteriorly and posteriorly, and, perhaps, only by passing a fine cannula into the sinuses, and washing out or sucking the contents back into a sterile syringe, and submitting them to bacteriologic examination and culture.

## DERMATOLOGY

Conducted by RALPH BERNSTEIN, M.D., F.A.C.P.

**LICHEN PLANUS ET ACUMINATUS ATROPHICANS.**—Feldman hesitated before giving the article its title, which expresses briefly the clinical and pathologic findings of the case he reports. A rather full history of the patient, a woman, aged 45, is given. She presented a rare modification of lichen, namely, the atrophic form, with the difference that, to the lesions of atrophic lichen planus (Hallopeau) were added those of lichen acuminatus. There is a resume of the historical features of this group of rare cases. It appears on analysis of the case reports, that there are two groups. In one there is a complete absence of typical lichen planus lesions, and the basis lesion is a white, hard papule with a pink rim. The lesion in this group has a closer resemblance to morphea than to the lichens. The other group is characterized by a depigmented patch with horny plugs or dilated follicles, and surrounded by a red or violaceous border made up of lichen planus lesions. In the case described in this article the sepia brown color of the border was left after the clearing up of the annular patches of lichen planus which originally surrounded the depigmented areas. Microscopically the case was identical with those described by Hallopeau. The patient improved with Asiatic pills (arsenous acid and black pepper) 1/40 gr. each, with the instructions to take one three times a day and to increase the dose one pill daily until three pills three times a day were being taken.—*Arch. Dermat. and Syphilol.*, Jan., 1922.

**DIFFERENTIAL DIAGNOSIS OF PITYRIASIS ROSEA AND MACULÆ SYPHILID.**

—According to Roland, syphilodermata are not so often mistaken for pityriasis rosea as the latter is for the former. A distinction between the two diseases is, as a rule, not difficult. When the case of pityriasis is very mildly inflammatory, however, and associated with considerable adenopathy and the lesions have not developed into their full characteristics, the mistake can easily be made, even by those quite accustomed to seeing the syphilodermata. If the case is watched for a few days it will soon develop the distinguishing points; namely, the bright pink lesions lacking in the usual purplish tinge of the syphilodermata, and having sharply defined borders with a fine branny scale. In syphilis the color fades more gradually into the surrounding skin, and the lesion is more likely to have a shiny surface. The lesion will not be so prominent to the touch as the lesion of syphilis. The distribution of pityriasis completely avoids the hands, palms, soles and forehead which are so likely to be affected in syphilis. Finally, there is an absence of the other symptoms and signs of syphilis, such as the mucous membrane involvement, history of the chancre, etc., and there is the negative Wassermann.—*J. Oklahoma State M. A.*, Dec., 1921.

**SHOULD UNIVERSAL PSORIASIS BE TREATED WITH ROENTGEN RAYS?**

According to Gorr and Voigt, there is a widespread opinion that in diffuse psoriasis Roentgen radiation is valueless. The authors treated a man with diffuse foci of psoriasis over the whole body. One place on the left hand was radiated with an erythema dose (full) with the result that after a period of days the disease foci disappeared entirely. The effect can be

explained either by the formation of antitoxins from the destruction of the disease focus, or by alteration of the whole body, especially the blood, as a result of the radiation. There is a tendency in psoriasis to react to any irritative influence with psoriatic efflorescences; it may be possible to set aside this tendency by altering the somatic powers through the use of Roentgen rays. The authors have seen successful results also in various cases of psoriasis, if not as marked as in the case cited, at least the eruptions become smaller and less numerous. We can assume that the tendency to eruption in psoriasis is caused either by specific substances which are destroyed by the radiation, or by protective substances which are formed.—*Munch. med. Wchnschr.*, Nov., 1921.

**ROENTGEN TREATMENT OF SCLERODERMA.**—Ascoli and Fagioli report a case of scleroderma in the induration stage which was not affected by the administration of extracts of thyroid and hypophysis, but improved markedly when stimulating doses of Roentgen rays were applied to the thyroid and hypophysis. It is impossible to say whether the thymus or thyroid was responsible for the results, as both these glands were irradiated at the same time. Hammer also, in a case previously cited, irradiated these two glands. It may be assumed that scleroderma is caused by disease or hypofunction of various endocrine glands, probably by way of a neurosis of the sympathetic. This is indicated by the good results of treatment with thyroid and adrenal extracts and of the treatment by irradiation with stimulating doses of various endocrine glands or gland complexes, the hypophysis and thyroid, thyroid and thymus, or the thymus alone. The author had good results from irradiating the thymus in Basedow's disease. This result may be regarded as an antagonistic action of the thymus against the hyperfunction of the thyroid, or as in scleroderma, of a direct action on the sympathetic by stimulating the thymus.—*Munch. med. Wchnschr.*, Dec., 1921.

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#### OPHTHALMOLOGY

Conducted by WILLIAM M. HILLEGAS, M.D.

**EYE FINDINGS IN BRAIN INJURIES.**—Nelson M. Black had such ample opportunities of observing large series of cases in the German War, that his paper in the *Am. Journ. of Ophthal.*, Nov., 1921, is valuable. He says that the ocular changes attendant upon injuries to the head and brain are very important factors, when studied in conjunction with the general symptoms, in estimating the extent of the injury, in aiding in localizing and in determining the treatment. The extraocular expressions of these injuries are muscular paresis, paralyzes and conjugate deviations. The intraocular are choked disc, optic neuritis and retinal hemorrhages of all grades. The visual tract manifestations are expressed in defects of the visual fields. The advance made in the knowledge of cerebral localization, as a result of the number and variety of war wounds of the head and brain, will be of great assistance in the localization and treatment of civil brain injuries. Black thinks that the value of the pupil as a factor in the diagnosis of brain injuries has been greatly overrated as the appearance and activity vary greatly, depending upon the nature and location of the trauma of the brain. There are two valuable means through the eye of diagnosing

increased intracranial tension, i. e., the condition of the eye grounds and the character of the visual field as determined by the perimeter. As regards the pathogenesis of the intraocular changes found in increased intracranial pressure, Black feels that the mechanical theory affords a more satisfactory explanation than the toxic or inflammatory theories. He concludes that examination of the eye grounds should always be a routine part of the examination of any case of head injury, and the determination of the visual fields when possible. When choked disc is found, together with other symptoms of increased intracranial tension, operation is imperative. The relief of pressure in practically every instance prevents atrophy of the optic nerve when done in time. On the other hand, the absence of choked disc should not preclude operative interference when other symptoms indicate its necessity.

**MEDICAL TREATMENT OF CATARACT.**—Genet is doubtful whether any medical treatment is of any use in arresting the tendency to cataract. To date no local measures have proved certainly effectual, but they deserve more thorough trials, especially serotherapy with a phacolytic serum obtained by repeated injection of animals with an extract of fresh crystalline lenses. No one has ever seen a mature cataract retrogress under potassium iodid, but some writers have reported an arrest in the progress of cataract, and some even a clearing up of the lens under its use. Genet himself has never observed this, but he has been impressed with the difference in the time required for ripening of the cataract in certain cases, regardless of whether medicine is taken or not. He warns that quacks pretend to cure cataract by using atropin which materially increases the visual acuity while its effect lasts.—*Medicine, Paris*, Jan., 1922.

**SENILE CHANGES OF THE OPTIC NERVE.**—Dr. Ernest Fuchs, of Vienna, in a lecture before the College of Physicians in Philadelphia (reported in the *Amer. Jour. of Ophthal.*, March, 1922), discusses the pathology of cases of reduced vision in old people without any ophthalmological changes, or maybe with a slight pallor of the optic disc. These cases, if not attributable to some manifest cause, are called benign senile optic atrophy. In making his investigations, Fuchs removed at post-mortem in addition to the eyeballs, the chiasms, the optic nerves and tracts, this differing from the usual examinations which are made of excised eyes in living subjects in which but a small piece of the optic nerve can be removed. On sectioning the intracranial parts of the optic nerves he found in many of these senile cases amyloid bodies in such numbers and size that they necessarily pushed aside fibres of the nerve, thus impairing acuity of vision. His most interesting findings, however, were in relation to sclerosis of the blood vessels, the internal carotid artery and especially the ophthalmic artery, which, being dilated and their walls thickened or even calcified, exerted a pressure upon the lower side of the optic nerve, the nerve bundles being displaced, at times to such an extent that hemianopsia might result. He also found atrophic foci due to arterio-sclerosis of the small terminal vessels supplying the optic nerve. These foci were usually peripheral and the ocular manifestations, therefore, would be a peripheral contraction of the field of vision, which, however, may easily remain unnoticed by the patients, especially if their vision is already impaired by other changes due to old age.

**VITREOUS HEMORRHAGE AT MENSTRUATION.**—Meanor reports in the *Amer. Jour. of Ophthal.*, March, 1922, the case of a married woman, age 33, in whom hemorrhage of the vitreous occurs at every menstrual period. The hemorrhage usually begins on the second day of menstruation. The vitreous becomes so cloudy that the fundus cannot be seen, but clears up before the next period. Patient has had blurred vision during her periods ever since menstruation began. She is the mother of two children and had the hemorrhage every month during her pregnancies. There has never been any epistaxis. Blood Wassermann and other tests and examinations have been negative.

#### ROENTGENOLOGY

Conducted by WALTER C. BARKER, M.D.

**RADIOTHERAPEUTICS ON SKIN CANCERS.**—Taft states that with the use of a Coolidge tube, it is possible to give accurate doses of X-ray, and this makes it a more valuable modality in the treatment of skin cancers, than radium. While various types of cancer respond to different amounts of X-ray, the majority of cancer cells offer a resistance to the ray which is equal to, or greater than, the skin. Therefore, if the result is to be accomplished with a single dose, it is necessary to give an amount which will be followed by a marked skin reaction.

Dr. Ledoux-Lebard calls attention to the fact that weaker doses used over a longer period of time, will have an opportunity to reach a greater number of the cancer cells during the period of chromatolysis, at which time, they are most susceptible to the X-ray. Therefore, it is possible by repeated doses, to destroy a certain number of cancers without producing the accompanying skin reaction.—*Urologic and Cutaneous Review*, Jan., 1922.

**THE RATIONAL TREATMENT OF CERTAIN INTRACTABLE SKIN DISEASES.**—In small doses, radiant energy acts as a stimulant to practically all tissues, while in massive doses, it produces cellular death. Different tissues of the body do not react the same after irradiation of the equal amounts of X-ray. Thus one quarter of a skin dose may temporarily suppress the ovarian function, and the same dose may cause an enlarged thymus to atrophy completely. There are local results following X-ray irradiation which are not due to the direct effects of the ray. Thus certain skin infections will become sterile a few days after irradiation, and it will be impossible to kill these bacteria growing on laboratory culture mediums. Lawrence states that the skin lesions most successfully treated are blastomycotic dermatitis, epithelioma, venereal warts, acne vulgaris and chronic eczema.—*Urological and Cutaneous Review*, Jan., 1922.

**THE COMBINED USE OF THE CYSTOSCOPE AND X-RAY IN UROLOGICAL DIAGNOSES.**—Because it is a well-known fact that serious diseases of the kidney may exist with a negative history and not be shown at physical examinations or by urine analysis, the authors feel that the X-ray and cystoscope are very important factors in making urological diagnosis. While all lesions of the urinary bladder may be detected cystoscopically, the X-ray is of value in determining the size and character of diverticuli, in out-

lining the contour of the urinary bladder and also in determining the presence or absence of calculi in the prostate gland. Before the Roentgenograms are made, the authors emphasize the importance of the proper preparation of the patient, the absolute fixation of the kidney by compression and the practicing of holding the breath. A diagnosis of ureteral calculi must never be made except by the combined examination of uretero-catheterization with an opaque catheter and Roentgenography. This not only shows the presence of a calculus, but localizes it.—J. W. Marchildon and E. E. Hein, *Urologic and Cutaneous Review*, Jan., 1922.

**POSSIBILITIES OF PNEUMOPERITONEUM IN GASTRO-INTESTINAL DIAGNOSIS.**—Sante states that the pneumoperitoneal method of examination may aid in the diagnoses of lesions of the gastro-intestinal tract, but can never be substituted for the method of filling the hollow organs with an opaque meal. The author suggests a technic of filling the peritoneal cavity with air injected with a Potain pump and then giving a Seidlitz powder, the two portions being taken separately, so as to distend the stomach. In this way it is possible to study the anterior surfaces of the stomach, the cardiac end, the pyloric ring and the first portion of the duodenum. Tumors on the posterior wall of the stomach may easily be demonstrated by this method.

The pneumoperitoneal method is the one of choice for studying adhesions of the small intestine to the surrounding organs and abdominal wall, and also post-operative adhesions. The contents of a hernia can also be described by this method of examination; because of the numerous normal attachments to the cecum, to determine when they are pathological, it is necessary to turn the patient in various positions so as to stretch the adhesions and elicit pain.—*J. of R.*, Feb., 1922.

**SCREEN FOR PROTECTING PATIENTS FROM HIGH TENSION CURRENTS IN X-RAY EXAMINATION AND TREATMENT.**—Tousey cites a number of cases of electrical burns and deaths resulting from patients coming in close proximity to high tension wires. With the introduction of transformers of greater capacity, the author thinks that additional protection against electrical accidents should be installed. The present devices made of hard rubber and other insulating materials are safe so long as they are free from cracks and dust, but it is safer to rely on air insulation than to depend on materials which are liable to deteriorate. For this reason, Tousey has devised a plan of surrounding the exposed ends of tubes by thin metal sheets. These sheets are placed at a sufficient distance from the high tension currents to prevent sparking under normal conditions, and are grounded to the tube stand, which in turn, is grounded to a radiator or water pipe by means of a wire on a spring wheel.

With this device it is possible for the patient to touch the metal protection without experiencing any sensation, even when a spark strikes it. These metal screens also act as a short circuit, preventing a heavy discharge puncturing the tube.—*Urologic and Cutaneous Review*, Jan., 1922.

**PELYCOGRAPHY, ITS FIELD AND ITS LIMITATIONS.**—Van Zwaluwenburg reports the examination of three hundred and fifty cases of the female pelvis by pneumoperitoneum roentgenography. Inflation was made, both

by transuterine and transabdominal routes. Because of the gloomy outlook for this method as described by Dr. Case, the author feels that it is now time to evaluate the method, circumscribe its field and define its limitations.

In any method of examination, the welfare of the patient is the first consideration; and the value of a method depends upon the amount of information it contributes, which cannot be obtained otherwise. The few unfortunate cases which Dr. Case reported in condemning this method of examination in favor of the exploratory operation, are not sufficient upon which to base such a decision. Just as in early days of abdominal surgery, many unfortunate accidents occurred from lack of experience, so in the hands of the inexperienced, some accidents have occurred with the establishment of a technic for the pneumoperitoneal examination. In the author's series of cases, there have been no serious accidents. When the transuterine route is decided upon, a careful pelvic examination is made and in the presence of acute inflammatory lesions, or suspected septic conditions, or pregnancy, the abdominal puncture is preferred.

An unnecessarily severe test of the method was made in this series of cases by the roentgenologist establishing a diagnosis independent of the gynecologist. In one hundred and fifty-three cases of the series, this diagnosis was confirmed at operation, or where a diagnosis of the patency of the fallopian tubes was made, by a subsequent pregnancy. In all cases where there was a difference of opinion, a conference was held between the roentgenologist and the gynecologist and a joint opinion established before subjecting the patient to operation.

The author's technic is important as he has found it necessary to raise the pelvis of the patient, placing the plate under the patient and the tube above, in order to clearly bring out the floor of the pelvis. The bladder and colon in all cases must be empty.

In those cases of large tumors, the origin of which is clearly pelvic, there is little to be gained by the pneumoperitoneum method. In the cases of obscure abdominal masses, their origin may be definitely determined. In several cases of advanced pregnancy, dermoid cysts and pelvic abscesses were demonstrated as accompanying complications and no harm resulted to the pregnancy from the examination.

The method is also of value in demonstrating normal pregnancy in the early stages. The experiences with ectopic pregnancies have not been universally successful as they may be confused with inflammatory conditions. In several cases, suspected ectopic pregnancies were proved to be normal pregnancies complicated by extrauterine conditions.

The method is of value for determining pelvic tuberculosis, the patency or obstruction of the fallopian tubes in sterility, and the establishing of a negative pelvic diagnosis in cases of neurotic young women.

The author considers the co-operation of the gynecologist and the referring of increasing numbers of cases, evidence of the value of pneumoperitoneal examination of the pelvic region.—*J. of Rad.*, March, 1922.

# THE HAHNEMANNIAN MONTHLY.

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JUNE, 1922

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## HAHNEMANN VERSUS THE MODERN

JOHN G. WURTZ, M.D., PITTSBURGH, PA.

(Being the Eighth Annual Hahnemannian Oration delivered before the Homœopathic Medical Society of Germantown, April 17, 1922.)

WE are gathered tonight to pay homage to Hahnemann. You have so frequently heard him eulogized; so frequently heard his views defended; so numerous have been the occasions on which his system of therapeutics has been lauded, that there seems but little remaining to be said in this connection. Hahnemann, along with others of former years, knew quite as much about disease as we do, or to rearrange the thought, we know but little more about disease than did the old masters in the art of medicine. To compare all of Hahnemann's views with ours is difficult, so I offer you a medley of a few selected comparisons which I thought best to title, "Hahnemann Versus the Modern."

If one reviews the history of the human race, one is impressed by the fact that man has changed but little from his forefathers, because his passions are essentially those of his ancestors back through all ages to prehistoric times. If one reviews the history of medicine, one is impressed by the fact that the attitude toward disease has changed but little, because in the deeper analysis, disease remains but little understood. In the past there have been many theories relative to disease; at present there are various theories, and, judging from these, it is safe to assume that other theories will prevail in the future. Each theory of disease advances a form of thera-



peutics to correspond. When evil spirits were regarded as the cause of disease, it seemed proper to drive them out by prayers, charms or incantations; when disease was attributed to too much blood or bile, the patient was bled or purged; when a dynamic derangement was ascribed as the cause, it seemed fitting to treat patients with dynamized drugs; with pressure upon nerves considered an important factor in the production of disease, the therapy is to relieve the pressure. As Omar Khayyam so aptly says, "A hair perhaps divides the false and true, and upon what may life depend?"

There seems to be a thought inherent in mankind and that is, when one does not agree with our views we are liable to think he is queer, foolish or misled. Everyone is entitled to his opinion, and if held in true faith he is honest. It is when he does not hold it in true faith that he becomes a hypocrite, or more appropriately here, a charlatan. The stronger the faith the better will it become established, and it has been the variations in beliefs, the disagreements, the dissatisfactions that stimulated investigation and brought us to what we believe to be a fair understanding of human ills.

Since the time of Hahnemann we have been taught to consider disease from many angles and our attitude seems changed; but since the time of Hahnemann disease has not changed, though many new syndromes have been tabulated. Preventive medicine has come to the fore with benefits beyond dispute; what may be termed a technical consideration of disease has been highly developed in the laboratory, much to our aid in diagnosis and prognosis; but to the careful recording of careful observations of clinicians of the past we owe most. Our present-day methods only enhance the greatness of the true physician of former days, and these, including Hahnemann, still remain good examples in spite of the gap which separates our ways and means from theirs.

By a careful study of the writings of Hahnemann and those of the moderns one finds that in so far as the essentials of infection and immunity are concerned Hahnemann's ideas still remain good. It is well known that persons may harbor various microorganisms without apparent injury to the host. This surface contamination or even occasional invasion of the tissues does not necessarily indicate that the host has been, is, or will be ill. No harm is done until some special condition arises, then the abnormal state resulting from the local and

general interaction between the host and the invading bacterium, with the consequent tissue changes and symptoms, constitutes what we call an infectious disease. The fundamental factor, the essential cause, the "special condition" remains but little, if at all, understood. This was pointed out by Hahnemann in his *Organon*, when he says, "The inimical forces, partly psychical, partly physical, to which our terrestrial existence is exposed, which are termed morbidic noxious agents, do not possess the power of morbidly deranging the health of man unconditionally; but only when our organism is sufficiently disposed and susceptible to the attack of the morbidic cause." "The exciting causes of disease act daily, but do not cause disease." "It is only when these external agents assail in an aggravated degree upon a body which is weak or predisposed." He realized then that the two inseparable factors must be considered in all infections; the virulence of the bacteria and the immunity of the body. One or all of the well known normal defenses of the body must be overcome, the virulence of the bacteria must be increased and in other instances the resistance is overcome by a general lowering of the vitality of the body defenses.

When any condition that depresses or diminishes general physiological activity and vitality exists, the host may be unable to master these defensive forces and hence becomes predisposed or more susceptible to infection. Hahnemann realized the effects of a poor mental state, fatigue, hunger and exposure to cold on the lowering of vitality with perhaps the consequent occurrence of disease. In other words, he knew that no matter what the infection, the exposure itself does not cause the disease unless the predisposition is present in the person.

We are taught that infection and immunity are chemical reactions, but not accessible to chemical investigation. And it is agreed that so variable and complex are the changes in infections or febrile diseases that efforts to ascertain the nature, by studies of metabolic changes, have yielded little results. No definite and characteristic changes peculiar to fever, for example, as such and independent of the direct effect of the underlying causes have been found.

Hahnemann, in his *Lesser Writings*, teaches that we may know the exciting cause of disease, but how it works will never be known, because it is impossible to divine the internal essen-

tial nature of disease and the changes they effect in the hidden parts of the body. He taught that human life is in no respects regulated by physical laws which only obtain among inorganic substances. It is regulated by laws peculiar to vitality alone. "The healthy state depends on the state of life which animates it; in like manner it follows that the altered state, which we term disease, consists in a condition altered originally only in its vital sensibilities and functions irrespective of all chemical or mechanical principles." He further teaches, in his Lesser Writings, that, "The exciting causes of disease act by means of their special properties on the state of our life (on our health) only in a dynamic manner." "Since they first derange organs of higher rank and of vital force there occurs from this dynamic alteration of the living whole, an altered sensation and altered activity of each individual organ and of all collectively." This is in keeping, in part, with Vaughan's theory, that the poison elaborated is the same in all infectious diseases, and it is the location of the infection, rather than the exact nature of the infecting agent, which gives rise to the more or less characteristic symptoms and lesions of the several infectious diseases. The interaction of the body ferments and bacterial protein results in a specific poison that may select a certain point of predilection in which it is most prone to accumulate. Thus typhoid bacilli select the Peyer's patches and the pneumococci the lung. After the lung affection comes the constitutional symptoms. As Hahnemann says, "The altered activity of the individual organ and of all collectively."

It goes without saying that Hahnemann did not know bacteriology and immunology as we understand it and hence did not deal in the same terminology which we exchange. He did not know antibodies as we consider them. Had he known them he would probably have considered them as biproducts of disease, as morbid signs or symptoms of the internal derangement, and as such, in most instances, sooner or later eliminated from the body. Which is actually the case. Hahnemann dealt in fundamentals and seems to have known as much about the essentials as we do, and it is the essence of disease which is sought. In the search a thought is occasionally developed which stimulates laboratory and clinical investigation. These in turn seem to frequently run in a vicious circle, and nothing new is forthcoming until someone, so to speak, flies

off at a tangent. So every so often in medicine there is more or less of a reaction, resulting in the elimination of some ideas and the rearrangement of others. An example of this is the idea that all antibodies, as we know them, are one and the same. Various workers have demonstrated that this is actually so. If immunologists concede that one antibody is capable of manifesting itself in several forms, disease—the reaction between the body and some morbid agent—may be one reaction with several manifestations. This simplification of matters is not inconceivable. Light, as mysterious as it is, can be split up into all the colors of the rainbow, can be altered by removing a color; but in its essence still remains the same. In chemistry, consider the many substances which may result from the various combinations of the same elements. And speaking of elements, we are taught that they may vary only according to the presence or absence of one or more of what we call electrons, as purple varies from indigo, and in the ultimate be only one thing.

While it seems safe to say that Hahnemann, in spite of his ignorance of bacteriology and immunology as we know them, had ideas which closely agree with ours, relative to the essentials of disease; it also seems safe to say, judging from his writings, that he would not sanction the idea which exists in the minds of many homœopaths of today, relative to modern therapeutic measures. At least from the standpoint of "Similia."

Among many homœopaths there exists a fallacy which should be seriously considered. One frequently hears that many modern therapeutic methods are in accord with the principles of Hahnemann and we point with pride to the allusions of prominent men of the older school, who mention that vaccines are homœopathic. The statement is accepted without question. In our own ranks we find those who believe that treatment by filtrates and dilutions of discharges, and others who believe that laked, incubated and diluted blood administered to the persons from whom taken, are quite in accord with Hahnemann's views. Overlooking the fact that the real reason, the why and how of infection still remains unknown and assuming the broader stand that bacteria produce disease, vaccines are not homœopathic. In answer to his critics, Hahnemann, in the preface of the third volume of his *Materia Medica Pura* says, "Cannot those persons feel the

difference betwixt 'identical' (the same) and 'similar?' " And again, "The homœopathic doctrine never pretended to cure a disease by the same, the identical power by which the disease was produced." If the "identical" is essential to homœopathy, or even permissible, then lachesis would be used only in the treatment of bites by the viper, tuberculinum only in tuberculosis and psorinum only in scabies.

Again, relative to the auto-therapies, Hahnemann, in his *Organon* asks, "Are then the foul, often disgusting excretions which occur in diseases the actual matter that produces and keeps them up?" "Are they not rather always excretory products of the disease itself, that is, of the life which is only dynamically deranged and disordered?" Even were these discharges to contain the matter which produced the disease, one would again be dealing with the identical and not the similar.

Bacteria vary in their virulence and in their selective affinity and humans vary as to their resistance or susceptibility. Hahnemann says that we "can not have homœopathy without totality of symptoms." And further teaches that homœopathy without individualization is inconceivable. Vaccines are used empirically. Because patients are benefitted by the administration of vaccines, vaccines are considered homœopathic; because they are administered in relatively small doses, they are said to be homœopathic; because bacteria are believed to be the sole cause of disease, they are administered, falsely, on the principle of "similia." No one better than Hahnemann realized that patients could be relieved by other than homœopathic means. He recognized the usefulness of a change of environment and was not opposed to surgery. Hahnemann realized that to know the exciting cause of disease is advantageous so that it may be removed in order to hasten a cure or prevent a relapse. This is what vaccines do, as will be discussed later. Hahnemann also knew the limits of homœopathy, all medicines, in fact, because in his *Organon* he says, "Homœopathy cures symptoms, but not the chronic miasm." That is, in other words, that homœopathy cures the disease (symptom complex) but not the predisposition to disease.

As stated, disease is the reaction or the result of the reaction between the body and a morbid agent. If the reaction does not occur there is no disease. The factors producing the

disease do not exist in the bacteria alone; they exist also in the body. Hahnemann states that the cause of disease "Is not perceptible and not discoverable." This holds true today, because we can not see or know the true nature of the derangement which makes for susceptibility or the factors which protect. What we call antibodies can be demonstrated, but can not be seen, nor can there be seen the exact combination of factors which result in disease, though a certain combination of circumstances must exist before any reaction will take place. Witness the unsuccessful attempt to produce "flu" in healthy men, after the epidemic wave of 1918 had passed.

Vaccines physiologically remove the exciting cause of disease. When living bacteria enter the body and excite disease (a reaction), the body physiologically forms what we call antibodies, in greater or lesser amounts, to overcome the invaders. This forms a part of the natural resistance against disease. Bacterins cause the formation of these same antibodies, but bacteria, alive or dead, are not alone in the stimulation of antibody production. Theoretically, at least, our bodies may harbor antibodies for any protein, even those ingested, as evidenced by the presence in human blood serum, of antibodies against sheeps' blood, for example. So the mere fact that a substance produces an antibody can not be taken to mean that the same substance is capable of causing disease. Antibodies are physiological manifestations of a reaction between the body and some, usually protein, substances, and when they are produced as they are in the administration of a bacterin, they physiologically remove, or attempt to remove, the exciting cause. This admits of nonspecific protein therapy and in all of these there is nothing homœopathic, though they do remove the exciting cause as Hahnemann deemed best to do when it could be learned.

There is one vaccine which corresponds to Hahnemann's views relative to the action of drugs, and that is the true, the original vaccine; cow-pox against small-pox. Here the similar is nearer approached, though vaccination is used as a preventive rather than a curative measure. Briefly, Hahnemann's theory of the action of drugs is this: Medicines are more prone to unconditionally produce symptoms in man than are natural diseases, and when two symptom producing agents are in the body at the same time, the weaker gives way to the stronger. The more similar the symptoms produced by these, the drug

and the natural disease, the more rapid the cure. Hahnemann teaches that since drugs can produce symptoms more constant, and in spite of the health of the body, the drug symptoms are, for the most part, stronger than those of disease. He cites two instances to prove that one natural disease may become so well established in the body that a pre-existing weaker one, or a subsequent weaker one, is either entirely overcome or suspended. It is on this theory that Hahnemann explains the value of cow-pox inoculation against small-pox. Vaccinia being stronger or better established, either prevents the occurrence of small-pox or greatly modifies it, and the similarity of the symptoms of each enhances the claim. Up to the present no adequate explanation has been found of the relationship between small-pox and vaccinia and no definite exciting cause has been found, though certain inclusion bodies and diplococci have been described by several.

There are those today who attribute nearly all diseases or abnormal conditions to the presence of some focus of infection. Had Hahnemann known bacteria he would probably have considered focal infection as he did skin manifestations and ulcers, when he says in his *Organon*, "It is evident man's vital force, when encumbered with a chronic disease which it is unable to overcome by its own powers, adopts the plan of developing a local malady on some external part, solely for this object, that by making and keeping in a diseased state this part which is not indispensable to human life, it may thereby silence the internal disease, which otherwise threatens to destroy the vital organs (and to deprive the patient of life), and that it may thereby, so to speak, transfer the internal disease to the vicarious local affection, and, as it were, draw it thither. The presence of the local affection thus silences, for a time, the internal disease, though without being able either to cure it or to diminish it materially." That a focal infection could subsequently produce symptoms is inferred by Hahnemann when he says, "The local affection thus silences, for a time, the internal disease, though without being able either to cure it or to diminish it materially." The cause of the focal infection still remains the unexplained susceptibility.

Another theme of this medley is the similarity of the ideas of Hahnemann and those of our modern psychologists. Hahnemann says, "In the healthy condition of man, the spiritual vital force (autocracy), the dynamis that animates the mate-

rial body (organism), rules with unbounded sway, and retains all the parts of the organism in admirable, harmonious, vital operation, as regards both sensations and functions." "The material organism, without the vital force, is capable of no sensation, no function, no self-preservation; it derives all sensations and performs all the functions of life solely by means of the immaterial being (the vital force) which animates the material organism in health and disease." "When a person falls ill, it is only this spiritual, self-acting (automatic) vital force, everywhere present in his organism, that is primarily deranged by the dynamic influence upon it of a morbid agent inimical to life; it is only the vital force, deranged to such an abnormal state, that can furnish the organism with its disagreeable sensations, and incline it to the irregular processes which we call disease." "It is the morbidly affected vital force alone that produces disease, so that the morbid phenomena perceptible to our senses express at the same time all the internal change, that is to say, the whole morbid derangement of the internal dynamis."

To those of a purely materialistic trend quotations from the *Organon* may seem absurd. To the modernist, the psychologist, not so, because the psycho-pathologists teach that life is a highly complex organic mechanism of a dynamic nature, representing in a structural form a portion of the life and energy of the world. The mind, evolving out of the action of this mechanism, contains within itself a representation of all of the component parts of the organism, together with such of the environment as is perceived by the senses. The psychologist of today would have us believe that the nature of life, the meaning of disease, and the significance of healing may be considered by viewing the personality as a whole from the psychological level.

Evolution teaches that there is the vegetative structure as the primary basic level, followed by the higher co-ordinating mechanism; the neurological, and this in turn by the still higher level; the psychological. The dynamic force is adherent from the beginning and as stated before, the psychological level shows all of the integral parts of the organism and so much of the environment as has been grasped by the senses. From the standpoint of psycho-pathology, then, disease comes to mean anything disturbing this transition of energy from the lower to the higher level. The disturbance may be on any one



or more of the levels; but in the last analysis it becomes for the individual a psychological problem. Hahnemann, by his individualization of persons, symptom complexes and medicines; by his attention to the mental state; by his consideration of the environment as effecting an amelioration or aggravation; by his dynamic theory of disease, comes very near coinciding with the views just presented.

That the body figures largely in the cause of disease may be assumed by the fact that it figures largely in the cure. And that it figures largely in the cure has been demonstrated by investigations along the line of chemo-therapy. Chemical substances, though administered empirically, may have an effect upon the invading microorganism and destroy it; while in vitro the same substance may have no effect upon the same microorganism. The living tissues play a part in the destruction and that factor varies according to the invading organism in the same host and the same organism in different hosts. That the body is the great factor was realized by Hahnemann, as can be seen throughout his writings. Hahnemann's application of medicines follows a definite law; chemo-therapy has no law, nor can one be formulated at the present.

As intimated before, new discoveries often turn out to be nothing more than a revival of old measures. Some such so-called discoveries are quite homœopathic. It has not been long since the curing of rheumatism by the sting of bees was revived and articles have appeared setting forth the good results of such treatment and further the unexpected cures in such cases of conditions not directly due to rheumatism; as, amenorrhœa, for example. This treatment while empiric and perhaps bordering on nonspecific protein therapy, approaches homœopathy because of the similarity of the symptoms for acute rheumatic fever and the bee sting.

It is not the object of this paper to exalt or belittle either homœopathy or the modern systems. The idea is, however, that as homœopaths we should be less gullible regarding therapeutic measures and render to the moderns the things which are modern and unto Hahnemann the things which are Hahnemann's and not the least of the latter are his views relative to the fundamentals of disease.

**A PLEA FOR RATIONAL OBSTETRICS: REPORT OF TWO CASES**

BY JOHN E. JAMES, JR., B.S.C., M.D., F.A.C.S.

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THOUGH these two cases proffer none of those extraordinary features usually demanded as a basis of sufficient value to make them a matter of record, yet, appearing in our clinic at the same moment within the past month, they so clearly illustrate the thought in mind at my present writing, that I believe their report in more or less detail to be worth while.

CASE I.—Edith M., negress, single, age 17 years, applied to prenatal clinic August 30, 1921, in her first pregnancy. In the family history, nothing of importance was elicited, except the statement her father had been blind for five years. Personal history revealed scarlet fever in childhood, and "various" other children's diseases. Patient stated she first walked when eighteen months old. Menstruation began when ten years old, has always been regular in a 28 day cycle, lasting three to four days, and associated with severe cramps. The last menstrual epoch was given as March 5, 1921 (the first day of), lasted three days, and was of the average normal character.

Physical examination showed negative findings as to heart, kidneys and thyroid. There were evidences of acute bronchitis, for which patient was referred to medical department for observation and treatment. Breasts of normal capacity; nipples flat. General skeleton was small; much below normal standard, with a weight of 115 pounds. Abdominal palpation showed a pregnant uterus, the fundus being three fingers-breadth below the Ensiform cartilage, in a mid-line axis; the fetus offering a vertex type of cephalic presentation, in the L. O. A. position. The presenting head was above the pelvic brim and floating. There were no abdominal scars.

Pelvimetry showed a perfectly symmetrical pelvis, externally and internally, with the following measurements: Inter-spinous, 21 cm.; Intercristal, 23 cm.; Intertrochanteric, 26 cm.; External conjugate, 18 cm.; Diagonal conjugate, 10.25 cm.; estimated true conjugate, 8.5 cm.; Interischial, 10 cm.; Circumference of pelvis, 75 cm. In addition, there was a typical

false sacral promontory at the junction of the second and third sacral vertebrae, with a complete loss of the concavity of the anterior sacral surface.

Urinalysis was negative; systolic blood pressure, 92 m.; diastolic, 50 cm. (sitting posture); pulse pressure, 42. Blood, Wassermann, was negative. The obstetrical inference drawn was:

1. Calculated date for full term pregnancy, December 12, 1921.
2. Normal physical findings.
3. Generally contracted rachitic pelvis.
4. "Possible" Cesarean Section.

Upon patient's subsequent visits to the clinic, the calculated date of labor was changed to the early part of October.

On October 4, 1921, case was admitted to the ward for observation. Abdominal examination showed a presenting, well-flexed head, engaged in pelvic brim, with no over-riding, in the R. O. A. position. Internal examination revealed complete obliteration of cervical canal, with the external Os dilated for over two fingers breadth, the Os rim being exceedingly thin; membranes intact, with average amount of forewaters, the greater segment of the head being below the false promontory. The patient denied having any "pain," though uterine contractions were distinct. At 5.45 P. M., patient complained of "regular pains;" at 6.30 P. M., spontaneous rupture of membranes occurred; at 6.45 P. M. spontaneous delivery of a living, male child took place. The third stage of labor was uneventful; there were no lacerations.

The child weighed 5 pounds, 6 ounces; was 48 cm. in length; circumference of shoulders was 31.5 cm.; sub-occipito-bregmatic circumference was 89 cm.; biparietal diameter was 8 cm.; occipito-mental, 10 cm.; sub-occipito bregmatic, 8.5 cm. General development showed the child to be full-term. The placenta and membranes weighed 1 pound; length of cord, 50 cm.

CASE II.—Emma R., negress, married, age 28 years, V-para. Applied to prenatal clinic 10/10/21. Family history was negative. In personal history, patient states she had pneumonia when 24 years old. Menstruation began when 14 years old, regular in a 28 day cycle, of six to seven day duration, and painful for first day. The last menstrual epoch

was given as February 27, 1921 (first day of); lasted five days, and was of the average, normal character.

The first pregnancy was terminated at term by a Cesarean Section, a living child of six pounds being delivered. The second was a five-months miscarriage (April, 1920); the third a two-month abortion (August, 1920); the fourth a two and one-half month abortion (December, 1920). Patient has been well in present pregnancy except for pains in both iliac regions, and in abdominal scar aggravated by foetal movements.

Heart, kidneys, lungs, thyroid, negative. General skeleton small. Abdomen—spherical, thin, tense walls. Uterus, enlarged to four fingers breadth below ensiform cartilage, in a mid-line axis. A mid-line scar from just above symphysis pubis to above umbilicus, the lower half being firmly and intimately attached to lower anterior uterine wall. Foetal palpation showed a presenting head, in the L. O. A. position. Foetal heart rate was 140.

Pelvimetry—Perfectly symmetrical pelvis, externally and internally. Interspinous, 20 cm.; Intercristal, 24 cm.; Intertrochanteric, 30.5 cm.; External conjugate, 20 cm.; Diagonal conjugate, 12.75 cm.; Estimated true conjugate, 11.25 cm.; Interischial, 11 cm.; Circumference of pelvis, 88 cm.

Urinalysis, negative; systolic blood pressure, 98 m.; diastolic, 45 m.; pulse pressure, 53 mm.; no venereal evidences; blood, Wassermann, negative.

The patient gave the history of a bloody discharge from the abdominal incision with each menstrual period for fourteen months following her Cesarean Section.

The obstetrical inference drawn was:

1. Calculated date for full term, December 4, 1921.
2. Gracilis pelvis.
3. Cesarean Section, probably Porro type (because of abdominal scar); otherwise, normal delivery.

Permit me, at this point, to briefly elaborate upon the instructive points of these two cases.

The details in my first case have been given, purposely, to emphasize the essentials of obstetric history-taking, of prenatal care, and the extent to which every medical man or woman should be familiar with every case of pregnancy, and be conversant with every salient item entering into the formulation of a correct decision as to the proper management and therapy of the case. Clearly, in this instance, the "*bete noir*"

was the abnormal type of pelvis; especially, the unusually prominent false sacral promontory. The general skeleton, together with the deviation of the sacrum, warrants the diagnosis "rachitic pelvis." Furthermore, the relation of the false promontory to the posterior wall of the symphysis pubis invoked a departure from the accepted method of estimating the available space of the inlet. It was easy to demonstrate this lower and more conspicuous promontory to be the apex of an isosceles triangle, the base of which was the posterior wall of the symphysis. Mensuration from it to the sub-pubic ligament, then, gave the exact length of the available antero-posterior diameter of the pelvic inlet without subtraction of the usual coefficient. This was 8.5 cm. With this measurement in mind, our case, thus, was placed in the so-called "borderline" category, the therapeutic inference drawn by our Dr. Bert being "possible Cesarean Section." This meant hospital care, close observation at the onset of labor, and careful practice of the Mueller method of determining the relationship of the size of the presenting head to the estimated length of the modified conjugate diameter of the inlet before a final decision as to the method of delivery could be given. The conditions manifested as the patient presented herself to the wards in labor precluded all thought of any type of operative interference; an "obstetrical judgment" justified and verified by the precipitate type of labor and the size of child. In passing, it is pertinent to state, though the child was small, it showed all evidence of being full term, thus vindicating the change in date for expected labor at term.

I cite this case as one typifying "rational obstetrics." It is but one of many similar cases met with in the average obstetrical clinic, emphasizing the need of routine precision in contrast to haphazard deductions.

In my second case, our inquiry naturally seeks the basis for the Cesarean Section terminating the first pregnancy at term, leaving, unfortunately, a complication obviously necessitating a similar procedure in the present pregnancy. It is possible one of those complications of pregnancy at term may have been recognized, concerning which obstetricians are of one mind as to the value of Cesarean Section in selected instances. I refer, especially, to placenta praevia, the pre-eclamptic state and eclampsia. If, however, the patient's repeated statement, to our Dr. C. V. Clemmer be true, that the

section was done because of a "contracted pelvis," then to such management of the case we must take exception, inasmuch as accurate pelvimetry does not sustain the diagnosis of a "contracted pelvis." To be sure, all the external measurements are below the normal standards, and to a degree, suggestive of small internal measurements; but, internal pelvimetry shows no deviation from an absolutely perfectly normal bony pelvis. This patient has a typical gracilis pelvis, with a diagonal conjugate diameter of 12.75 cm. length. The child in utero under such conditions would have to be of extraordinary size to warrant the thought of Cesarean Section or any other *modus operandi* other than normal delivery. .

It is well that we bear in mind the frequency with which this apparently abnormal type of pelvis is met. So frequent, indeed, that it in itself serves to emphasize the positive necessity of routine, complete pelvimetry. By routine, complete pelvimetry I mean the measurement of all essential external and internal diameters before a diagnosis of a pelvis is formulated. I like to reiterate this dictum of obstetrical practice as often as opportunity permits, in order that the full value of pelvimetry may be applicable to every case. Reservation of internal pelvimetry to those cases where external pelvimetry leaves a certain element of doubt, as I have heard some clinicians remark, is wrong—positively wrong and misleading. The case under discussion is sufficiently illustrative.

That adherence of the uterine incision to the abdominal incision occurred with resultant utero-abdominal fistula, calls for no special censure because of the possibility of this complication in the classical abdominal hysterotomy. In this particular case, however, it may be looked upon as a bit more than simply "unfortunate," if the section was done because of a supposed contracted pelvis; and especially inasmuch as it necessitates a second section as the only safe procedure for the mother in the present pregnancy.

I cite this case as an instance of "irrational obstetrics." One, apparently, where operative furore prevailed without sufficient reason.

We are mindful of the propaganda, in what appears now to be only recent years, on the part of the leaders in obstetric thought and teaching to compel the recognition of the practice of obstetrics as a progressive and strictly surgical specialty. We have been fortunate in our day to witness the culmination

of these humanitarian efforts. The daily increase in the number of women of all classes seeking hospital care in confinement, and this, especially worthy of note, in conjunction with the increasing number of hospitals accepting the highest standard of efficiency, namely, a "closed staff;" together with the universal recognition of the value and demand for thorough prenatal and post-natal care under adroit and skillful supervision, clearly attest to the special construction the layman places upon the term "obstetric art." Every recognized medical college classifies obstetrics as a "major branch." The hospital which would measure up to the qualifications of a "standardized hospital," must not simply have a "maternity ward," but an "obstetrical" department. The one who would rightfully seek the appellation "obstetrician" is required to be, first, thoroughly grounded in the principles of surgery, and, then, to be specially and intensively trained in the details of obstetrical work, so that he can meet with all the essential qualifications embraced in the eponym "obstetric surgeon." It is in this manner, and to this degree, have we noted obstetrical progress and have seen obstetrical practice develop to that distinction of surgical prominence which it basically and justly deserves.

I like to believe "the heights of great men reached and kept, were ne'er attained by sudden flight," is a statement as true today as in the time of its famous author. Is it not true, however, we frequently observe unbounded enthusiasm in the realms of surgery and a perfect willingness to undertake almost any surgical problem on the part of a recent graduate in medicine after the opportunity has been afforded him to do his first major operation, and the patient survives? Oftentimes, in this embryonic fervor, there seems to be forgotten or disparaged those essential and almost hallowed qualifications designating the true surgeon so much more potently than the skillful wielding of the scalpel. As we make progress in any endeavor, it behooves us, now and again, to stop for a moment and consider wherein our success lies; to make a careful inventory of those things which count and are worth while, and to discard those which are superfluous and detrimental. It is right that success should beget enthusiasm; let us not forget, however, how frequently over-enthusiasm leads to poor judgment and false conclusions. And so, in the universal recognition of the true surgical basis of obstetrical prac-

tice, let us constantly be mindful of the continued existence of the classical principles underlying "obstetrics in transitu," and of the fact that the thinkers and leaders in obstetrics are not in accord with such over-enthusiasm as would make every pregnant woman a subject of some major surgical procedure at term.

There seems to be a necessity of taking cognizance of a division of obstetricians into two categories: The conservative and the radical; or, oftentimes synonymously referred to as the "non-operative" group and the "operative" group. I feel the nomenclature "rational" and "irrational" is somewhat more expressive of whatever grouping may be thought necessary among those who are at the present time doing obstetrical work, and have cited my two cases under these somewhat more descriptive captions.

Is there, however, a justification for a division of "obstetricians" into a conservative or non-operative, and a radical or operative group? It is my feeling and strong conviction that the practice of true, of scientific, of progressive obstetrics creates no demand for such differentiation or grouping. Intimate study and basic familiarity with the principles and doctrines of this special branch of medicine demonstrate the exactness of its practice, and explain why such a grouping could never be applicable to the leaders in it. Necessarily, every one knows how long past is the time when a case of pregnancy and labor is to be looked upon as a simple physiological process meriting little attention; no one considers the time at hand, or ever will be, when every case is to be ruthlessly catalogued as pathological, and must be subjected to ill-advised and grossly meddlesome care. Between these extremes lies the domain of progressive and ultra-scientific obstetrical practice, wherein the real worth and practical ability of the true obstetrician is so clearly manifested. In this definite domain there is recognized the call for "individualization" of obstetrical cases. Individualization requires an intensive study of every case. Intensive study can alone be accomplished through a long and practical schooling in the accepted principles of obstetrics. In this manner alone, can be acquired that quintessence of "obstetric judgment," which common-sense, progressive obstetrical practice demands every pregnant woman today shall have the benefit of in order that the welfare of the two lives concerned in each case shall be enhanced and augmented. Correct obste-



tric judgment has as its aim and purpose the routine conduct of labor in the safest and easiest manner; safest, so as to avoid and minimize the risks of immediate and *remote* results of infection and trauma; easiest, so as to offset the mental and nervous trauma of a particularly painful process. The obstetrician "true," stands ready in every case to distinguish between the normal and the abnormal, or the "non-operative" and the "operative" case; to early recognize and correct deviations in posture, mechanism and forces acting as a cause of delay; alert to the earliest indications of threatened danger to life of mother or child, and specially skilled to apply the necessary and proper therapy; and, to utilize "obstetrical analgesia."

These essential doctrines it is timely to emphasize lest we forget and be carried far afield in a thoughtless effort to seek something different and original, expressive of greater refinement. The past decade has witnessed the meteoric rise and fall of several novel and alluring modes of procedure, each one offered as the panacea of all the "ills of labor." As each appeared, there quickly arose a coterie of admirers and adherents, and the more radical and sensational the idea, the greater the number and more intense the ardor of the followers. Necessarily, all were short-lived. During the furore over Cesarean Section, I recall being told of a very reputable obstetrical clinic in which the rule was made that all cases applying for care in whom the conjugate vera measured "down to 9 cm.," should be sectioned at term. Think of such a rule—without a qualification.

At the present time, we hear how internal podalic version is the most progressive and correct method of delivery for all cases at term; not because of any increased frequency of moderate types of flat pelves, or any of the other accepted complications indicating the operation, but as the easiest and safest method of painless childbirth. All will agree, I feel certain, this is our most "progressive" method of today; a few, however, will concur with the correctness of the procedure as a routine substitution for normal labor. It matters little what minor modifications of the ordinary method of performing internal podalic version may be devised or emphasized, or what adjuvant maneuvers for the ease of the operator may be recommended; the principle involved violates all the accepted laws of modern obstetrical practice and, as DeLee tells us "the published results as to mortality condemn the method." No rou-

tine operative method of delivery can ever supplant normal labor for normal cases, because, no matter what degree of finesse and technique may be acquired and exhibited by the "surgeon," there is no obstetrical operative procedure which offers the same degree of safety to mother and child as normal labor conducted in an accredited clinic and by skillful hands.

In the obstetrical clinic of the Hahnemann Hospital of Philadelphia, from September 1, 1920, to September 1, 1921, there were delivered 460 out of 463 cases receiving prenatal care. In this series, there was no maternal death, and the infant mortality was 4 per cent. inclusive of syphilitic still-births, or 2.4 per cent., exclusive of the latter. I purposely exclude all of our emergency cases during this period, in order the better to show our statistics for normal delivery of normal cases and of selected therapies for the abnormal ones.

It is unfortunate that those who would appear so keenly interested in the humanitarian aspect of obstetrics should not devote their time and energy to those chapters requiring more intimate investigation and research, rather than to attempt to alter those basic principles as to labor, which must be considered immutable. A vast amount of development must be forthcoming relative to the so-called "toxemias" of pregnancy, as one example. There should be a deeper delving into the intricacies of metabolism, in order that "basal metabolism," blood chemistry, carbon dioxide content, may be of greater value in diagnosis and prognosis. All this, necessarily, means tremendous time and energy; none of it has the glamor of the sensational or ostentatious, and hence, though offering the greatest utilitarian value, does not appeal, and finds but few willing workers.

I make a plea for a "rational" practice of obstetrics. Not the ultra-conservatism which permitted too much reliance upon "force" and "nature;" not the ultra-radicalism which would permit nothing but surgery. Rather, with the universal recognition of the obstetric art as a strict surgical specialty, the continuous and constant adherence and obedience to those fundamental laws, to those classic principles, and sound doctrines which never can permit or be in accord with any fetish or fanaticism.

**COMPARISON BETWEEN HOMŒOPATHIC TREATMENT AND THE  
MECHANISM OF THE INFECTIOUS PROCESS, IMMUNITY,  
VACCINE AND SERUM THERAPY**

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LET us review together and make a short study concerning the mechanism of the homœopathic therapeutic action, a mechanism which is in entire agreement with the principles and recent theories of bodily resistance, immunities, etc.

For quite a long time it has been established beyond doubt that if we administer to an individual, or to an animal, very small quantities of a poison, or other pathogenic substance, we shall be able to obtain an immunity, that is to say, a resistance of the organism, submitted to this process, against the pathological element employed.

The practical application of this procedure commenced with the antivariolic vaccination, introduced in 1798 by Jenner. Since this remarkable discovery of Jenner this method or idea of vaccination has gradually developed, and the results of sero and vaccinothrapy have been generalized under the term of Immunotherapy. It has also been known for a considerable time that certain seeds of plants are endowed with similar properties to those of bacterial toxins. It is recognized that the pathogenic action of bacteria is due, in a large measure, to certain soluble substances that they secrete, the toxins; also that these insoluble poisons are only liberated or set free with the destruction of the bacteria, the endotoxins.

Some of the extracts of plants are as follows: *Abrin*, a phytotoxin obtained from the *Abrus precatorius*, the common wild licorice, the plant also being known as Jequirity; *Croton*, a mixture of toxic albuminoids contained in *Croton* seeds, *Croton tiglium*; *Ricin*, a poisonous proteid found in the Castor Oil bean; many authors class these substances under the generic term of Toxalbumins, or poisonous proteids. Similar substances or toxic secretions are found in some animals, the serpents (*Cobra*, *Crotalus*, *Vipera*, etc.); these are called ophidotoxins, crotalotoxins, etc.; the wasp and spider secrete similar substances as well.

Let us examine for a moment more recent work, adding to the confirmation of these facts.

Ehrlich, in 1891, immunized an animal against *Ricin*; then

mixed the blood of this animal with a fatal dose of the Ricin and reinjected this mixture into another animal of the same species as the first; this subject was not in the least injured in any way, acting, as Ehrlich expressed it, as if the serum of the first animal had contained a specific antitoxin. Many other investigators, since Ehrlich's pioneer and extremely valuable discovery, have confirmed his observations, namely, that there is an elaboration of antitoxin in the organism, and this process has been justly named Ehrlich's Lateral Chain Theory.

The formation of antitoxins is a property possessed by the organism of reacting to certain substances, foreign in character, and called antigens, and by other specific products of defense, called antibodies. The union of these two substances causes a series of phenomena similar to that of digestion and is characterized by the coagulation of the proteose.

Heterogeneous substances, that the body receives and assimilates, have been given the name of antigens, whereas the name of antibodies has been given to those substances produced in the body under the influence of the antigens; according to Ehrlich, this union between antigen and antibody is a chemical process. Now, however, as Prof. Oertel remarks in his new work, "Thus, as we advance in our knowledge, it is revealed that the multitude of phenomena of immunity are not due, as was originally supposed, to the appearance of new chemical factors for each reaction but to different expressions of general physical laws of colloidal relations." Again he says, "The very act of infection is traceable to them. For the possibility of contact with, and entrance of a foreign substance (bacteria or poison) into, cells depend upon the physical constitution of cell protoplasm and of its environment." Others think that antitoxins do not exist in the blood of some animals who, by their nature, seem to be very refractory in regard to poisons in general, but that these antitoxins are only formed following the destruction of the poison itself. Whatever may be the *modus operandi* the results are obvious.

Immunity may be congenital or acquired. The first is permanent and stable, usually lasting throughout the whole life of the individual. The second is a perfect immunity so long as it lasts, but it is only temporary in character, lasting from a few months to a few years. This artificial immunity is called *active* if it is due to the introduction into the organism of attenuated cultures of modified toxins. It is called *passive* if it

is due to the serums of previously immunized animals. In the first form the antibodies are manufactured by the cellular elements of the patient himself; in the second form, they are a constituent of the serum.

With these facts established, what relationship do we find between them and the pharmaco-physiologic homœopathic action?

To those who have tested and tried out homœopathic remedies carefully at the bedside, the evidence seems conclusive that these drug agents, given according to the homœopathic generalization, possess the property of stimulating in the organism the formation of specific antitoxins, knowing, of course, that the body possesses natural defenses, which, when properly excited, assist in neutralizing all pathogenic or toxic action. And the more carefully chosen the remedy, that is, the closer it corresponds to the condition of the patient (objectively and subjectively) the better will be the results. The same may be said of a vaccine, the nearer it approaches a *simillimum*, experience has shown that better results follow its administration. All agree that an autogenous vaccine is usually more dependable than a stock vaccine, showing that to be successful it must correspond closely to the similar condition to be treated. If a homœopathic remedy has been chosen correctly very often a reaction follows similar to the reaction following the injection of a vaccine or serum. How keen and close observers must have been the older homœopathic physicians, who noted this point that modern science has demonstrated to the satisfaction of all. Thus the close similarity between vaccine-therapy and homœo-therapy. As Dr. Wheeler has so clearly emphasized in his recent book, "The Principles and Practice of Homœopathy," all that the believers in the homœopathic generalization desire is that physicians will make a sufficient number of clinical tests under varying conditions to form a reasonable basis for an opinion as to the truth or otherwise of the claims of homœopathy. Experiment has convinced them and they are willing to stand or fall by the results of such clinical experiments, and he goes on to say "That we are human enough to be a little resentful of the too common habit of pronouncing judgment in this (scientific) cause without such investigation of the evidence as alone can warrant a scientific conclusion." Those of you who have not secured a copy of this excellent work of Dr. Wheeler's should

do so without delay; it is invaluable and deals with homœopathic problems scientifically and in the terms of modern clinical medicine.

So we have lived long enough to see the principles for which we have contended accepted in the scientific world, and the beliefs and the theories held by the homœopathic school are absolutely in accord with the theories of vaccino-therapy, the bacterial immunity of Ehrlich and Metchnikoff, the humoral immunity of Buchner, Pfeiffer, Druys, etc.

Again, certain pictures of toxicologic symptoms correspond exactly to the pictures of diseased symptoms; and as examples let us cite: Arsenic and Veratrum as provoking symptoms similar to Cholera, and you all are familiar with Hahnemann's experience in the Cholera epidemic in Austria which made homœopathy a legal method of practice in that country; Belladonna to scarlatina; Cantharis to acute cystitis; Mercury and Iodine to certain manifestations of syphilitics; Quinine to intermittent fevers; Phosphorus to pulmonary inflammation, to jaundice of certain forms (non-obstructive) and to necrosis of bone; Plumbum to cramps and colic, also to chronic interstitial nephritis; Muscarin to delirium, hallucinations and convulsions; Conium to delirium with paralysis; Strychnia to tetanus; Hyoscyamus and Stramonium to certain well defined psychoses, and many other examples could be cited as Corrosive Sublimate to dysentery, and Glonoine to certain types of headaches, etc. I think that those who are the best qualified to judge, believe that the evidence is that Phosphorus raises the opsonic index to the tubercular infection; the same may be said of Baptisia to typhoid infection; Bryonia appears to raise the index to pneumococcal infections; Belladonna and Hepar sulph. to those of staphylococcic especially, and perhaps to streptococcic infections. We all know from clinical experience the usefulness of Belladonna in often controlling the formation of boils, which is a staphylococcic affair. Thus it will be seen that all along the line clinical experience and recent findings of the laboratory coincide with each other, both paths leading to the same or similar conclusions.

Another fact that seems fairly well established is this: An organ or body that is diseased reacts more to medicinal doses of a drug than a healthy organ or person. In other words, there seems to be a medicinal hypersensibility developed against

the specific antibodies,—tuberculin in the tuberculous, as an example of homologous antibodies. Ordinary, or so-called orthodox therapeutics, in introducing into the body antiparasitic, chemical and large physiological doses of powerful drugs, drugs given on the principle of contraries, or seeking to overcome the diseased condition by an opposite force, neglects and fails to take into account the spontaneous reactions of the organism. These reactions of the body are characteristic to each person, thus differentiating one case from another.

We know the general disbelief that has developed in the past few years toward the action of drugs—many believing that unaided nature is in better shape to cope with the disease than to fill the system with physiologically acting remedies; in other words, that nature is ahead of art in the battle between host and invader. “So in these days drug therapeutics are, to some extent, under a cloud of suspicion, and, apart from their homœopathic uses, the small minority of the profession (so-called homœopathic end), sees little reason to dispel the shadow which Old School experience has cast on them.”

I think that it can be justly stated that those physicians who have been interested in the homœopathic generalization, have always been more interested in the patient's background or bodily reactions to an infection, than in the infecting agent itself, and certainly the signs of the times indicate that every educated physician is paying more attention to the patient than to the germ causing the symptoms.

I think that one can see the close relationship between the giving of a homœopathically indicated remedy and the giving of an autogenous vaccine, both working in harmony with nature's bodily mechanisms.

How little Hahnemann knew what a hundred and twenty-five years would do in developing the method that was so near and dear to him, and how he previsited the trend of modern medicine.

In Dr. J. P. Sutherland's excellent paper entitled, “The Treatment of Disease Before it is Diagnosed,” which paper was published recently in *THE HAHNEMANNIAN MONTHLY*, he says: “One question, however, to which many answers have been given, has for a century been a ‘thorn in the flesh’ of homœopathy, and that is: How explain the *modus operandi* of the homœopathically administered drug? Hahnemann claimed that an explanation was unnecessary, and then he pro-

ceeded in paragraph 29 and elsewhere in the 'Organon' to offer an explanation which his followers have been unable to accept, namely, the theory of 'substitution.' Had he, instead, used the idea of reinforcing the vital power of the body, which is found in note 13 to paragraph 29 of the 'Organon,' he would have been more in accord with and even anticipated, modern ideas on the subject." He seemed to cling more to the theory of substitution than to stimulating the vital powers of resistance, and in this teaching he was mistaken, according to modern discoveries.

While not limiting the scope of the homœopathic method, does it not seem to you as we study the subject more closely that in the future its greatest sphere of usefulness will perhaps be in reinforcing nature's protective mechanism or assisting her in the formation of a proper antitoxin for fighting bacterial invasions? I have heard one physician (not a homœopath) say that: Why is not the giving of a homœopathic remedy a form of vaccination?

The question is often asked: How do you know that your remedies do aid and assist nature in her effort to combat infections? Well, as most all acute diseases tend to spontaneous recovery, we admit this is very difficult to say. As Dr. Chas. E. Wheeler so ably answers this question, let me quote him: "To determine how far any favorable results are *caused* by the treatment is a problem that does not concern homœopathy only, but all forms of treatment. The inquirer can only multiply experiments and exclude doubtful cases to the best of his ability. If he comes to the conclusion that suggestion is a sufficient explanation of all favorable results, no homœopathist will have any quarrel with him (however he may disagree with the verdict), provided that the experiments were well and carefully made."

I am glad to see so many references recently made to what is termed "Arndt's Law;" Dr. Wheeler has something to say about it, and so has Dr. Rabe in his recent book on Therapeutics. On p. 9 of Dr. Wheeler's book, when speaking of the reactions of protoplasm in response to stimuli, he says: "Now these responses of protoplasm to stimuli have been well investigated, and appear to follow a constant rule generally summarized as 'Arndt's Law.' The simple statement of this rule is that small stimuli encourage life activity, medium to strong stimuli tend to impede it, and very strong stimuli to stop or



destroy it. Thus strong solutions of Arsenious acid will destroy the yeast cell, less strong impede its fermentative activity, but very dilute solutions will encourage its activity, at any rate for a time."

After all is said and done, to practice homœopathy successfully is not an easy task, and the physician who is not willing to analyze each case carefully cannot help but encounter many failures—and possibly this is the reason for a certain lukewarmness so obvious at the present time among some physicians classed as homœopaths.

Many physicians have tried to make the road easier to travel, and, as you know, I have profited much and enjoyed translating Dr. Cartier's work, "Therapeutics of the Respiratory Organs" for English-speaking physicians. Nearly all of the French homœopathists are what have been termed "clinical prescribers," that is, prescribe certain remedies for pathological entities after a diagnosis has been determined, or certain remedies at different stages of a diseased process, following the results of clinical experience rather than prescribing for the symptoms solely. In looking for a reason for this tendency through Tessier's, Teste's, Jousset's and Cartier's time I have come to the conclusion that this method of prescribing has been due to the fact of their old school training in the universities of France, where it was necessary to obtain an old school medical degree. The study of homœopathy taken up after graduation had to be acquired from private instruction as there was no official teaching of homœopathy in the colleges. The strict Hahnemannian prescriber has never taken a very favorable attitude to clinical prescribing, but it possesses some advantages if it is not the ideal way. Personally, I have learned to weigh carefully every therapeutic suggestion made by Dr. Cartier, as they seem to work out in practice about as he states. I attribute this accuracy to his unusual powers of observation and fine discriminating ability, an uncommon mental equipment. How many times some colleague has said to us that such and such a remedy helps such and such a condition, and upon following the suggestion we have met with utter failure. Something was wrong, either the colleague's observation was faulty or our inability to follow his suggestion resulted in failure.

Since my translation of Dr. Cartier's book, I have had an opportunity to verify some of his suggestions, and if you will bear with me a little longer, I will mention a few of them.

In the common everyday cold which is the bugbear of humanity everywhere, I have found that *Nux Vomica* in the 3rd dilution at the beginning of these colds, before there is any or slight discharge, but a "stuffed up" sensation, especially worse at night, of real help, often aborting the whole trouble. Of course, I refer to cases without any general symptoms, as fever, aching, etc., indicative of an infection, as grippe. If the cold is not arrested by the *Nux*, and a fluent discharge appears, *Mercurius solubilis* 6, rarely fails to benefit.

In the muco-purulent catarrh following a coryza *Hydrastis canadensis* 6, is very useful, even with symptoms that seem to call for *Pulsatilla*, the *Hydrastis* appears to be of more benefit judging from considerable clinical observation.

For chronic hypertrophic rhinitis *Kali bichromicum* is very helpful. I cannot say too much in favor of *Bacillinum* or some of the other tuberculins for lessening the tendency to repeated colds; this seems to be a very reliable hint. Dr. Haywood, of Liverpool, England, once wrote a small book the title of which was "Colds the Cause of Half of Our Diseases." If this is the case, certainly *Bacillinum* will do much to lessen disease.

For the various forms of pharyngitis I have found *Sanguinaria canadensis* and its salt, *Sanguinarine nitrate* generally beneficial.

Dr. Cartier has long recommended *Ipecac* for complete aphonia, and my experience with it in these conditions has been favorable.

For catarrhal conditions of the bronchi, he has two remedies to which he is very partial, *Naphthalin* and *Grindelia robusta*. These he has tested in certain types of bronchial catarrh, and thinks that both remedies should be used oftener in such conditions. He says that by repeated observation, leaving no room for doubt or exception, that he has confirmed time and time again the remarkable virtues of *Naphthalin* in these various forms of bronchitis. He describes the forms in which the spasmodic element is associated with tenacious expectoration and oppression, as the French express it, dry catarrh of the bronchi. Generally this remedy is given in association with *Grindelia robusta*. Those who have followed this suggestion write me that results are usually uniform and curative.

We must not lose sight of the fact that so-called chronic bronchitis does no longer exist, according to our best clinicians, and that we must look to the *heart, kidney* or to *tubercular*

*infection* for this train of symptoms that our text-books have termed chronic bronchitis; so be skeptical of this term.

If the tubercular virus were only useful in the non-tuberculous diseases of the lungs, it would still be rendering much to the service of humanity!

Bacillinum, as you no doubt know, is not a pure tuberculin, but is made up of some of the contents of a whole tuberculous cavity, containing a variety of bacteria, more like a polyvalent vaccine, so to speak, and this preparation has been found the most useful in profuse bronchorrhoeas of old persons, not necessarily tuberculous in nature, and as a preventive for recurrent colds, as I have mentioned.

On the other hand Aviaire, the tuberculin of birds, is useful for acute conditions, as the broncho-pneumonia, following measles, etc. This preparation we should use quite often in childhood for acute processes. Grippal bronchitis, simulating acute phthisis, is greatly helped by this form of tuberculin.

Do not overlook the usefulness of Apis for general anasarca or pulmonary conditions during the course of chronic nephritis. I have used it many times with marked benefit.

In the aged who have a weak myocardium, we must, after a few days of treatment for a respiratory infection, pay more attention to the heart than to the condition of the lungs.

In some cases of persistent cough in the arteriosclerotic, we often do more for the cough by regulating the low blood pressure, which occurs more frequently than is suspected, than by any other means. Many cases of advanced arteriosclerosis have low blood pressure, in fact soon as the heart begins to weaken; not a very favorable development, for as long as the heart muscle remains equal to its work things go on fairly well.

Another remedy I wish to mention in this place is Baryta muriatica or carbonica. These two salts of Barium seem to relieve the symptoms of pulmonary arteriosclerosis.

In some cases of lobar pneumonia some physicians are partial to Pyrogenium when symptoms of sepsis develop about the time of the crisis or after this has occurred, symptoms of pulmonary suppuration making their appearance.

For drugs in asthma, the Iodide of Potassium and Naphthalin are quite important as remedies between the attacks. I am glad that Adrenalin is proving such a valuable agent for the attacks. Many observers claim that two or three drops of

the 1/1000 solution hyperdermically relieves as promptly as the usual 8 to 10 drops. The whole subject of asthma has been developed recently, and we shall be obliged to recast many of our former views of this bizarre symptom-complex.

None of us think of *Arnica montana* and *Ranunculus bulbosus* as often as we should in cases of intercostal muscular or nerve pain. They are both very valuable in intercostal neuralgia.

Jousset introduced *Cantharis* as one of the principal remedies in pleurisy after effusion had taken place. Do we use it often enough?

In doing thoracentesis for pleural effusion one should be careful in removing very large quantities of the fluid if a tubercular pleurisy is suspected. Formerly it was taught and believed that all pleurisies were tubercular; however, this is not the more recent view. The fluid in a tubercular pleurisy acts as an artificial pneumothorax compressing the lung which seems to lessen the progress of the tuberculous process. Many clinicians practice this artificial pneumothorax treatment of pulmonary tuberculosis; especially is this so in some of the medical centers of Europe. It has also been observed that hemorrhagic effusion is most often indicative of pleural carcinoma.

Some practitioners believe that as far as the use of tuberculins in homœopathic doses and upon homœopathic principles is concerned, that they are, without doubt, superior to all our former agents, as the various salts of *Calcarea*, *Arsenic*, *Iodine*, etc. My experience has been altogether too limited to make such a broad statement, though as time passes this may prove true.

To many it seems good practice to give a tuberculin in a high potency and one of the constitutional remedies in low trituration, giving the high preparation of tuberculin at very infrequent intervals, once a month or so, and the constitutional remedy much oftener, a dose once or twice a day; many advocate this way of prescribing in the advanced cases where all that can be expected to be accomplished is palliation.

I realize that these hints are rather fragmentary and rambling in character, nevertheless, they have seemed to be reliable.

In conclusion, let us all strive to keep our enthusiasm and faith in this valuable therapeutic method of Hahnemann, for without its aid humanity would be the loser.

**RETROPERITONEAL CYSTS: WITH REPORT OF A CASE**

BY JAMES G. SPACKMAN, M.D., SURGEON TO WILMINGTON  
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ISOLATED retroperitoneal cysts having no connection with any retroperitoneal organ, seem, after a careful review of the literature, to be of sufficient rarity to warrant the report of a single case. Jacquot and Fairrisse made a thorough study of this subject in 1913 and were able to collect only thirteen cases, nine having been reported in foreign journals and four in those of this country.

The case history and the operative findings were as follows: Mrs. R. L., aged 50 years, entered the Wilmington Homœopathic Hospital because of a large tumor occupying the right side of the abdomen. Her family history was unimportant and she has never had a serious illness. Menstruation began at the age of 15 and continued regularly, with the exception of two pregnancies, 17 and 21 years ago, until the menopause five years ago. Two years ago she had transitory albuminuria and hyaline casts, but the family physician stated these have been absent during the past year. For two years the patient has had severe lower lumbar backache, dull, dragging pain in the lower right abdomen and has become easily fatigued, which she has attributed to over-weight. Other than these indefinite symptoms she has had no complaints. Two weeks previous to admittance to the hospital, the presence of a large abdominal tumor on the right side was discovered by an osteopath. The patient consulted her family physician who confirmed these findings and she entered the hospital on November 6, 1921.

Physical examination showed a large, fat, apparently healthy woman, 270 pounds in weight, and wearing an abdominal support on account of a large pendulous abdomen. The lungs were negative. The muscle tone of the heart was poor, but there was no murmur and the apex beat was not displaced. The systolic blood pressure was 135 and the diastolic was 110. The right side of the abdomen was occupied by a large tumor which extended from 4 cm. below the costal border to 10 cm. above the pelvic brim and to the mid-line at the umbilicus, at which level its diameter was greatest. There was no change in the percussion note over the tumor, probably

on account of the great thickness of the abdominal wall and the tumor was not movable, and did not move with respiration. The right costo-vertebral angle and the space between the last rib and the iliac crest did not differ from those of the left side. The vaginal examination disclosed only a relaxation of the pelvic floor. The urine analysis was negative, the red blood cells were 4,200,000, white cells 7,200 and hemaglobin 90 per cent.

The pre-operative diagnosis was a cyst of the mesentery and operation was undertaken on November 9, 1921. The abdomen was opened by a 20 cm. incision through the outer-third of the right rectus muscle, beginning above the level of the umbilicus and extending to the lower limit of the tumor, which was retroperitoneal and had pushed the ascending colon toward the midline. The uterus was small and anterior and the pelvic adnexa were normal. There were no adhesions about the gall-bladder which was soft, compressible and contained no stones. It was not necessary to wall off the intestines from the operative field as the tumor rose so far anteriorly as to form a barrier. The posterior parietal peritoneum was opened on the outer side of the ascending colon throughout the length of the abdominal incision and the tumor was found to be a tense cyst which extended from the pelvic brim to the under surface of the liver. As it was obviously impossible to deliver so large a tumor intact, the inner leaf of the posterior parietal peritoneum was fastened to the inner leaf of anterior peritoneum and 2300 c.c. of fluid were aspirated through a large trochar and probably one-half as much was lost by a tear around the trochar. The cyst was then freed by blunt and sharp dissection from the loose cellular retroperitoneal connective tissue to which it was densely adherent. The dissection was begun at the bottom and continued to a level with the upper end of the abdominal wound, at which time one-half of the cyst still remained. As the patient's condition did not warrant continuance of the operation, the posterior parietal peritoneum was sutured, the cyst wall was fastened to the skin at the upper angle of the wound, the rest of which was closed in layers, and gauze was placed in the cavity of the cyst. The patient reacted well with a maximum post-operative temperature of 102 degrees on the following day, after which the temperature never rose about 100 degrees. The discharge from the cyst cavity was semi-purulent, and so free that copious dressings had to be changed six to seven times a day.

The operation was continued on the seventh day, the abdominal incision was enlarged upward to the rib border and the cyst was removed intact. Examination disclosed one large vein on its inner surface, but it had no connection with the kidney or the pancreas and a normal sized kidney was palpated on the right side after the cyst was removed. The right ureter was not seen during the operation. The patient made a good recovery and was discharged on the 34th day after the first operation with the abdominal incision clean and healed, except for a small sinus at the mid-point of the wound, 2 cm. in length and 4 cm. in depth, which had been the site of drainage after the first operation.

**PATHOLOGICAL REPORT.**—The fluid contents of the cyst were semi-purulent, yellow-white, without odor and sterile on culture. The cyst wall measured 25 cm. x 14 cm., although it had contracted during the interval between the first and the second stages of the operation. The cyst wall varied in thickness from a few mm. at the bottom, to 1.5 cm. There was a definite contraction at the upper end where the diameter was 5 cm., this narrow portion then dilated to a much larger cyst cavity. Sections examined by Dr. S. W. Sappington showed the wall to be composed of dense fibrous connective tissue with lymphoid infiltration. The lymphoid areas were glandular in appearance and lined with epithelium which was not definitely tubular, but rather round and many layered and did not extend beyond the glandular space. Some of the spaces were dilated to the size of microscopic cysts. There was no evidence of skin lining or hair. The epithelial lined spaces resembled somewhat the arrangement of kidney tubules, but did not mimic intestinal mucosa or glands. No voluntary muscle was present.

A careful review of the literature shows the subject of retroperitoneal cysts to have received little attention. Many standard text-books entirely fail to mention the subject, and those that do dismiss the matter with a few lines on cysts of the kidney, suprarenal and the pancreas, but do not refer at all to those isolated retroperitoneal cysts which have no relation to any retroperitoneal organ. Kroenig<sup>2</sup> gives to Roth the distinction of having first pointed out the true etiology of these cysts in an article published in Virchow's Archives fuer Pathologische Anatomie in 1881. Since then cases have been reported in American literature by Dowd, Maury, Brown and

Staehlin and the consensus of opinion of these authors is that these cysts are embryonic in origin and arise from unused portions of the mesonephros or Wolffian body:

The Wolffian<sup>4</sup> body is developed from the mass of mesodermic cells, the Wolffian ridge. This tissue connects the paraxial tract with the parietal plate and the Wolffian, or mesonephric duct, is formed from this mass of cells. This duct, with the tubules which open into it, constitute the Wolffian body. At this stage the Wolffian body consists of a tube, or duct, lying behind the parietal layer of the mesoderm and parallel and lateral to the primitive vertebral column, and of a series of transverse Wolffian tubules opening into the duct. Each tubule becomes sacculated midway between its two extremities and this dilated portion is invaginated by capillaries and with their enveloping capsules of Bowman, are known as the glomeruli and act at this time as a kidney, but this function is later taken over by the permanent kidney. The lower transverse tubules form the sexual segment.

During the development of the Wolffian body the duct of Mueller is formed parallel and to its outer side and later becomes the vagina, uterus and fallopian tubes in the female, while it atrophies in the male. Simultaneously with the formation of the duct of Mueller, the testicle and the ovary arise from the multiplication and differentiation of the mesothelial cells which overlie the free surface of the Wolffian body (the genital ridge). The excretory ducts of the testicle develop from the sexual series of transverse tubules and the body and tail of the epididymus from the upper portion of the mesonephric duct.

All previous cases reported in literature show one or more of the different parts of the Wolffian body present, glomeruli, ciliated, columnar and cuboidal epithelium. The dilated duct shows a columnar epithelium lining a wall of fibrous connective tissue. The presence of glomeruli and tubules depend upon the failure of these structures to atrophy.

The cysts may be uniocular or multilocular, the contents vary in consistency from thick, viscid, jelly-like, to clear watery fluid and the color may be opaque or chocolate. Normally no remains of the Wolffian duct should persist above the pelvic brim, but, due to errors in development, a growth may form between the layers of the mesentery or mesocolon. Such a growth may be in the region or and slightly attached to the



kidney or pancreas, with the colon on either its outer or inner side. Malignant degeneration may occur and it may rupture into the general peritoneal cavity, causing peritonitis or peritoneal metastasis.<sup>3</sup>

If the posterior portion of the Wolffian duct is involved, it is possible to have the development of a dermoid, as this portion is derived from both ectoderm and mesoderm, but no case has yet been reported with a lining of true skin, the primary requisite for a diagnosis of a dermoid.

The patient usually presents himself on account of an abdominal tumor, causing symptoms which vary with its size. Jacquot and Fairrisse call attention to the fact that, although these growths are congenital in origin, they do not cause symptoms or appear as a tumor for many years after birth. Conclusions:

1. The probability of a retroperitoneal cyst should be considered while making a diagnosis for an abdominal tumor of uncertain origin.
2. The treatment is early complete transperitoneal excision.
3. The peritoneal cavity should be carefully protected during aspiration and excision.

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#### EYE MUSCLES: FUNCTIONAL AND PATHOLOGICAL

I. D. METZGER, M.D., PITTSBURGH, PA.

(Read before the Homœopathic Medical Society of Allegheny County, November 16, 1921, as part of a Symposium on Muscles.)

THE eyes, working in unison and giving single vision under normal conditions, cause us to fail to appreciate the fact that they are separate organs with individual as well as complementary function. Anatomically they are analogous to the limbs and as such each should have the ability to move independently from its fellow. Unlike the limbs, however, there exists a correlating nervous mechanism that controls the extra-ocular muscles and causes a synchronous action which tends to produce the fixation upon the fovea centralis in each eye regardless of the direction of the object observed. This unify-

ing activity is controlled by what is known as the fusion center located at some uncertain point at the base of the brain. When the external rectus, controlled by the sixth nerve, receives an impetus to turn one of the eyes outward a corresponding impetus is transmitted to the internal rectus of its fellow to turn it inward so as to produce a similar direction in it for fixation. Anything which alters this correlation produces diplopia and is vitally disconcerting to the mind and the reflex nervous system.

One eye supplements the other in visual perception. At frequent intervals the mind is centered through one eye and the image of the other ignored, even when the acuity of vision in the two is equally keen. If one is markedly reduced in visual acuity, the mind centers more or less permanently through the other, leaving the blinded eye to assume its position of rest without definite fixation. If there exists any muscle imbalance, the eye turns in the direction of the stronger muscle, and responds feebly to the fusion innervation. If, however, the visual acuity is keen in both eyes, then the mind abhors the double vision and makes a desperate effort to compel the weaker muscle to maintain a perfect fusion of images. This accounts for much discomfort, even after a critical refraction and a careful adjustment of glasses. It is most noticeable as the patient approaches the presbyopic age when he or she can less effectually drive the weaker muscle to its task. An early development of such weaker muscle by systematic prism exercises can and should prevent these unfortunate ones from drifting unconsciously into a most distressing old age.

When the eyes have been accustomed to a definite fusion of images and some pathological lesion more or less suddenly disturbs their correlating alignment, we find a dreadful confusion of objects and a consequent fearful bewilderment of the mind. Not only is the equilibrium disturbed, so that the patient can scarcely orient himself, but the vital organs under the control of the sympathetic nervous system are seriously disturbed. This is shown by nausea and general physical distress. The mind at times becomes so disconcerted as to make these unfortunates long to die.

A paralysis of either of the extra-ocular muscles may cause this; the recti are apt to be the more serious offenders. When one of these fails to respond to the innervation transmitted to it, the associated muscle in the other eye seems to

receive a surplus of stimulus and thus intensifies the aberration of images. Individual fixation of objects is attempted; neither can be adequately accomplished and mental as well as physical bewilderment is inevitable. Equilibrium is disturbed because fixation of the eyes upon the ground or upon surrounding objects serves as a "guiding stick" to aid in maintaining our upright position. Change this accustomed distance or make uncertain its object of fixation, as in walking over a creek on a narrow plank, and one artificially produces a similar physical disturbance. To endure such condition long would occasion serious distress.

Better to have a single eye than attempt to endure these disconcerting effects permanently. One need not wonder that the patient makes desperate attempts to close the one eye, or in some other way to suppress the one image. Such distress may be produced by operating strabismic eyes after the visual centers have been well developed, even though they be outside of the normal fovea centralis.

Other collateral conditions attend muscle imbalance, whether it be pathological or functional. Perspective vision is lost and such a person has difficulty in judging distance; therefore, should not attempt to drive an automobile; quick and definite accommodation is impaired, thus hindering his efficiency in many lines. If the muscle imbalance is congenital, the future success of the child may be blasted at its beginning. The Commissioner of Education of the United States recently said that 85 per cent. of the education of the person is secured through the sense of sight. This may be hindered from two general causes, namely, imperfect refraction and imperfect muscle balance. The former is elicited through school inspection and the numerous oculists and refracting opticians; and the latter, alas, by scarcely either; yet to the mind of the writer the muscle imbalance, which may be as imperceptible as the refractive error, is productive of an even greater handicap in life, and of more serious asthenopic symptoms.

Needless to say, if the fault is a pathological one, an earnest quest should be made for its cause. This is usually done, since the distressing symptoms drive the patient to seek relief. The functional imbalance is frequently borne with pitiable patience. Energy is wasted, the life is enslaved by an incomprehensible distress, discouragement supervenes in the competition of life—finally some discerning physician, as

guardian of the health of this unfortunate, suspects its possibility and relief is secured.

The muscles of the eye, as those of any part of the body, are faithful and efficient servants when properly balanced and efficiently innervated. Otherwise they become dreadful impediments to physical welfare. As physicians, let us assure to our patients the best possible physical and mental life by ascertaining early any latent imperfections in these essential organs.

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### POTPOURRI—REPORT OF A YEAR'S ODD CASES

FRANCOIS L. HUGHES, M.D., F.A.C.S.

GYNECOLOGIST, ST. LUKE'S, WOMEN'S HOMOEOPATHIC AND  
ABINGTON MEMORIAL HOSPITALS

(Read before the Philadelphia Clinico-Pathological Society.)

WHEN I was requested to submit a paper to this Society I was at a loss for a subject. Then realizing the practical character of the Society, and upon looking over my records for the past year, I felt you would forgive me if I presented some oddities met in my actual work, rather than an academic presentation of some subject, which probably has been hashed and rehashed for years.

The following cases which I met with in the past year I trust will interest you:

The first three cases are not of particular scientific interest, but interesting in their coincidence, three cases of ruptured ectopic all admitted within 48 hours, and all living within a radius of four squares of each other. I might comment here upon a symptom which I consider pathognomonic and which I have never seen reported in literature which each of these patients had markedly: epigastric pain and a tender spot about three inches below the ensiform. This symptom I have noticed for years, and when in doubt, if present, has caused me to arrive at a final pre-operative diagnosis.

The next case in the series bears out my contention. Patient taken suddenly with severe right sided abdominal pain had history of previous (so-called similar) attacks. The attending physician diagnosed that appendicitis and sent her into the hospital. The surgeon, upon examination, diagnosed pelvic condition, probably abortion. This diagnosis was not

borne out by the menstrual history. The menstrual history was negative to type; this patient never regular, usually one or two weeks delayed. The patient was prepared for operation upon this diagnosis, and I was sent for. Upon examination I could palpate a normal sized uterus with negative lateral regions, the uterus was tender, no abdominal rigidity, some gastro-enteric symptoms (indigestion and diarrhoea).

I refused operation and placed her under observation. The patient's general condition was negative, her blood examination showed the presence of anemia, although the skin and mucous membranes appeared normal.

I asked for consultation with another gynecologist, who examined her and reported "pelvis free of any pathological changes." Not being satisfied, and feeling this was a case of ectopic, due to the presence of the above-mentioned symptoms, plus the blood picture, I frankly stated my position to the husband and told him what I suspected. His wife now being free of symptoms and ready for discharge, I strongly advised him to allow us to make an exploratory incision. This was granted, and upon opening the abdomen, the tube was found ruptured at the uterine junction with the escape of blood into a pocket formed by a fold of bladder and omentum. This clot was about the size of a small hen's egg. This mass being posterior to the uterus and spongy in character, gave no sense of resistance to the examining finger, the fundus could be easily palpated and the ovarian ends of the tubes being free, gave a negative lateral region to examination.

The next of the series are two cases of left sided appendical abscess.

The first case is interesting in so far that it was sent in on the surgical service as an appendicitis. This diagnosis was not confirmed by the surgeon, who insisted that it was pelvic. Personally, I disagreed with him, due to the extreme prostration of the patient, the temperature and pulse being no guide to the extreme septic condition of this woman. Such extreme seldom is found in pelvic conditions when one is able to exclude puerperal sepsis which was easily done in this case. The following is a short synopsis of the history and findings:

Patient was well up until ten days ago, when taken with sudden chill and cramp-like pains in the epigastrium, becoming generalized within twenty-four hours. Three days ago became severe, cutting in character in the lower abdomen, es-

pecially in left ovarian region. No nausea or vomiting in past two days, has had a copious diarrhoea, T., 99; P., 96; T., 24; white count, 24,000.

EXAMINATION.—General abdominal pain marked in left inguinal region, apparent tumefaction left inguinal region, rigidity throughout left lower abdomen.

Upon opening the abdomen found a walled off mass in lower left abdomen and pelvis. Upon breaking into this mass there escaped a large quantity of foul smelling pus; the appendix having sluffed off, escaped in this pus. In this abscess cavity was also found the left tube, which was also purulent. Ruptured pyo salpinx.

The other case gave the following history: Menses regular. On October 1, 1921, became nauseated with vomiting that night, followed by severe abdominal pain, bowels loose. Pain for twenty-four hours, followed by soreness. Has felt sore for the past two weeks with a dull aching pain. During this time menstruated with no symptoms.

EXAMINATION.—Abdomen flaccid, flutulent, tympanitic except a portion to left and three fingers below the umbilicus. Tenderness on deep palpation left of the umbilicus near the mid-clavicular line.

VAGINAL EXAMINATION.—Marked resistance on left side, a mass is felt extending above and anteriorly. The surgeon in this case, as can be seen by the abdominal examination, was justified in deciding that this was a gynecological case, especially when borne out by my vaginal findings.

Upon opening the abdomen, we were confronted by a walled off mass in the lower left abdomen. The caecum had been displaced markedly to the left and was curved on itself like a doughnut, the opening extending deep in the pelvis. At the extreme bottom of this funnel-shaped opening was found a fecal cast of the appendix. The appendix was sluffed and escaped with the flow of pus. Barring the adhesions in the pelvis, due to this severe inflammation, the lateral regions were negative. The resistant mass felt in the left lateral region by vaginal examination, was the abscess; this being borne out by examination upon discharge of the patient.

The next case is one of especial interest in many ways. The patient, an Italian woman, age 55, had not menstruated for twelve years. History as to previous illness negative. One week before admission had noticed a slight discharge of blood.

On examination I found a well nourished woman, inclined to obesity, no cachexia, no pain, or other symptoms except the slight show of blood. Vaginal examination revealed a cauliflower growth involving the entire cervix; vaginal wall not involved; the pelvis was full of apparent metastasis to such an extent the anatomical land-marks were missing.

I recommended the use of actual cautery for the removal of the cervical portion of this growth. My diagnosis being carcinoma. Upon operating I found this mass was removable by my fingers, a characteristic of the growth, as diagnosed by the pathologist. This mass was removed up into the body of the uterus, an area easily taking my closed fist. The patient suffered no pain or had any other symptoms while in the hospital, although I believe from her physicians that in the last week bleeding has again made its appearance. The diagnosis of this case being spindle cell sarcoma. The pelvic mass, no doubt, had been originally a fibroid which had undergone degeneration.

My last case is one that I know will interest you all. It is a practical demonstration of the neglect that some physicians practice on their patients, no matter how often they have been warned. On the other hand this condition would not present itself once in a million times, yet the once again demonstrates no matter what ails your patient, they are entitled to a painstaking examination.

The following being the history: Well developed woman, age 31 years. Delivered of a living child six years ago; normal delivery.

Following delivery of child an indefinite history of pain in both legs and hips. Was diagnosed as sciatica. Was in the Northwestern Hospital for two months, September and October, 1917. During pregnant period had no abnormal symptoms. On November 15th had indefinite pains all day. Came into active labor the evening of the same day. Called her physician about midnight; had active pains throughout the night. Her physician ruptured the membranes at 6 A. M. At noon the same day called in another physician. The patient was anaesthetized and an attempt was made to use forceps. This was not successful. An attempt was made to do an internal podalic version. This also failed, as it was impossible to get the hand high enough into the uterus. A third physician was called in and he advised her removal to the hospital.

The patient was admitted at 11.30 P. M. the same day. On admission, color good, pulse rapid, but of good volume. Bladder markedly distended. Attempt at catheterization failed until under an anaesthetic. No foetal heart sounds discernable.

VAGINAL EXAMINATION.—External parts inflamed, swollen and oedematous. A hard, immovable mass in the region of the promontory of the sacrum, extending forward obstructing the pelvic outlet. Head projecting in right anterior segment somewhat over the brim of the pelvis. The shoulder was presenting, a history of arm being prolapsed and replaced by one of the physicians.

Destructive operation was not advisable, due to the small outlet. A Cesarean was decided upon and the patient anaesthetized, the abdomen opened and a normal pregnant uterus of full time delivered. On the lower left segment the uterine walls had been so thinned that it was possible to see the membranes through this thin wall. Why rupture had not taken place is remarkable. The uterus was incised in the usual manner and the placenta was found presenting the foetus normal in every way delivered through the wound. Due to the extensive manhandling of this patient, I felt that her best chances were in removing a no doubt infected uterus. In consequence a supra-pubic hysterectomy was performed and the wound closed, the patient returned to bed in fair condition. The patient made an uninterrupted recovery.

The mass could easily be palpated from the abdomen and seemed to rise from the promontory. It was stony in character, and I believe it to be an osteoma, probably due to a sacro-iliac dislocation at the previous birth, with rarefaction and the throwing out of bone cells. This surmise would be in keeping with her history of sciatica.

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THE USE OF THE X-RAY IN THE TREATMENT OF CERTAIN SKIN LESIONS.—Goin deplors the fact that many dermatologists neglect the X-ray as a therapeutic agent in the treatment of skin diseases. Among the conditions in which the X-ray has been found of value are mentioned acne vulgaris, certain forms of angiomata, boils, carbuncles, cutaneous horns, eczema, favus, neoplasms, ring worm, various forms of tinea, venereal warts and tubercular ulcerations. Psoriasis may be made to disappear when the dose is properly measured, but the results in a large number of cases, are not permanent.—*Urologic and Cutaneous Review*, Jan., 1922.



## DISCUSSION OF A CASE

PRESENTED BY DR. J. W. STITZEL, OF HOLLIDAYSBURG, BY THE  
BUREAU OF OPHTHALMOLOGY, HOMOEOPATHIC MEDICAL  
SOCIETY OF PENNSYLVANIA, SEPT., 1921.

DR. GEORGE J. ALEXANDER, Philadelphia: Is there any history of illness, as ptomaine poisoning, or an injury to the eye during the period of camping? A definite knowledge of the condition of the teeth, tonsils and intra nasal structures as a result of a most careful examination, also appeals to me to be essential in such a case.

DR. R. L. PIPER, Tyrone: The boy had been away with the Boy Scouts, having a good time, for about two weeks. He came home with an intense headache in the left supra-orbital region and a temperature of 101 degrees. I treated him for a period of three days before his temperature subsided; immediately after the subsidence of his temperature, his left pupil became very much dilated, and I sent him to Dr. Stitzel for further examination. He can give you the history of ocular examination and progress of this very interesting case to date.

DR. J. W. STITZEL, Hollidaysburg: This case is a very interesting one. The boy came home from a Boy Scout Camp with severe pain in the left supra-orbital region, and was in bed for three days, as Dr. Piper has said. When he got up, his pupil was dilated. Three weeks later he came to see me. I saw him on August 27th, and found complete external ophthalmoplegia. There was absolutely no motion of the eyeball at that time. His vision in the left eye was 20/20 with + 75 sphere, with + 3.75 sphere. He read finest type on reading test card at three inches. The vision in the right eye was normal.

I found that the boy had no tactile sensibility. He had positively no movement of the eyeball, and the upper lid was closed. The recti muscles, the levator palpebri muscle that raises the eyelid, as well as the ciliary muscle and the radiating fibers of the iris, were all affected, he having a complete external ophthalmoplegia. All the extra-ocular muscles were affected.

This boy had a dilated pupil and complete paralysis of the ciliary muscle at that time. When I saw him again, on September 7th, I was not sure whether he had some action of the palpebral muscle or not, or whether it was due to an action of the orbicular muscle, which is sometimes seen, but there

seemed to be some action of the superior oblique muscle, which is supplied by the fourth cranial nerve, he being able to slightly rotate the eyeball upon its axis. I am positive that when I first saw him, he had no such rotary motion. The eye had no sensibility at first; but when he came the second time, his father said that he could feel the drops when put into the eye. He, of course, has paralysis of the third, fourth and sixth cranial nerves, which are mostly motor; and the sensibility of the eyeball is due to the ophthalmic nerve, which is a branch of the superior of the fifth. So there must have been some involvement of the fifth nerve, especially the ophthalmic branch of the superior maxillary.

I want you to see how complete the paralysis is in this case. There is a little motion today, but there was none when I saw him on the 7th. He has just a little lateral movement. This kind of paralysis is very rare; and the question is, What was the original cause? I did not have an opportunity to take an X-ray picture; but I looked into the nose very carefully. His septum is almost perfect.

DR. ALEXANDER: Has he had frequent colds?

DR. STITZEL: No.

DR. PIPER: There is no specific history, and no history of injury at all, while he was at camp. He had a temperature of 101 or 102 when he came back, and spoke of having been feverish for several days before he returned.

DR. STITZEL: There was no motion of the eyeball when I first saw him. The pupil was dilated and eyelid closed.

DR. J. W. STITZEL, Hollidaysburg: I gave rhus tox. thirtieth, and also gelsemium. I did not use anything else. The question was asked as to the cause in this case; and one of the things to be brought out is, I think, the cause. It looks as though there was undoubtedly some pressure inside the orbit. It must be inside, because I could hardly see how it could be on the outside and affect all the muscles that I laid stress on. It would seem as though the pressure were inside the orbit. You might, it is true, get pressure from some of the accessory sinuses that would cause an inflammation in the orbital tissue in some way. The condition is quite rare.

DR. D. N. LANDIS, Perkasié: Does the upper eyelid get its nerve supply from the inside or the outside of the eye? Does it come from the brain or from the inside?

DR. STITZEL: I am not able to answer that question definitely, but I feel rather sure that it is inside; because the third nerve, which supplies the levator palpebri, also supplies the superior rectus, the inferior oblique, the inferior rectus and the ciliary muscles which, of course, caused the pupil to be

dilated, and complete loss of accommodation. If he had pressure on the sixth nerve only his eyeball would turn in. The sixth nerve supplies the external rectus muscle alone; and the fourth goes to the superior oblique. He had some motion in the superior oblique on the 7th. I did not see that when I first saw him, and am positive there was no motion.

I also laid stress on the fact that there must have been involvement of the fifth nerve, as there was a loss of tactile sensibility. It is true that there must be pressure along the ophthalmic branch of the 5th nerve on account of the lack of tactile sensibility.

DR. G. W. HARTMAN, Harrisburg: I saw, during my junior year at college, a case of facial paralysis. We had many examinations in the middle of the term, and one of my classmates had a left-sided paralysis, due to overwork, which was diagnosed as central in origin. I wonder whether the thought is not in the mind of Dr. Landis that this may be central, instead of local; and that the pressure may be on the supra-orbital branch of the fifth?

DR. STITZEL repeated the history of the case for the benefit of Dr. Mackenzie, who was not in the room at first.

DR. STITZEL: Vision was 20/20 with plus 75, and reading was all right, with plus 3.75 D. S. for near.

DR. G. W. MACKENZIE, Philadelphia: I am sorry to have missed the presentation of the case, but this patient evidently had involvement of the third, fourth, sixth and sensory fifth. The second escaped. There is only one site for a lesion to produce this kind of a combination that I can think of, and that is about the cavernous sinus. I reported a case similar to this before the O., O. & L. Society meeting a few years ago. I thought at first that it was due to frontal sinus disease since the patient was suffering from a suppuration of the frontal sinus. Accordingly, the frontal sinus was operated and the condition appeared to clear up. He later developed a sixth nerve paresis of the other side. His affection was a right-sided case and this case today is a left. The patient died of something else, and post-mortem revealed the presence of an organized clot in the cavernous sinus, proving that the frontal sinus suppuration was not the cause of the ophthalmoplegia as was originally supposed. Some of these cases can be due to ptomaine poisoning. My patient, who was affected similarly to this young man, was susceptible to ptomaine poisoning. Was an X-ray examination made in your case, Dr. Stitzel?

DR. STITZEL (answering Dr. Mackenzie): No.

DR. MACKENZIE (continuing): We must also think of an orbital tumor above the optic foramen.

DR. STITZEL (answering Dr. Shemeley): Nothing espec-

ially has been done along these lines by myself. The boy's illness came on very suddenly. Dr. Piper (to the patient), Were you in bathing while camping? There is a very cold stream of water flowing by the camp, and the boys exercised violently; so there is a possibility of his having been bathing in the cold water while at camp, and having been chilled suddenly. He gave no history of ptomaine poisoning, but a history of feeling badly for several days before going home; and my opinion is that there was possibly a hemorrhage, arising from the fact that his temperature subsided very suddenly. It was between 101 and 102 one day; and the next day, was normal with this paralysis.

DR. G. W. MACKENZIE, Philadelphia: I should like to ask Dr. Stitzel whether he would mind publishing this case later, especially as to the future development of it, either in the *O., O. and L. Journal* or in the *Hahnemannian Monthly*, so that we may all get the benefit of it.

DR. STITZEL, closing: I shall be glad to do so. It just struck me as an interesting case to bring over here. I would say that the boy is decidedly better than he was on the 7th. Then the only motion I saw was a slight one from side to side. I did not notice any other.

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THE USE OF THE ROENTGEN RAY AND RADIUM IN MEDICINE.—Newcomet, in making a selection of his cases, divides them into two groups. In those cases where an intense local radiation is desired, radium is used; while in the cases where uniform radiation of a greater depth is required, the X-ray is selected. The amount of X-ray radiation is very much greater than that of radium. Thus when one cubic cm. of tissue is exposed to radium which is elevated 2 mm. from the surface, the cells on the lower surface will receive  $1/36$ th of the amount received by the cells on the upper surface. The X-ray applied to the same tissue with a target distance of 20 cm., will affect the cells on the lower surface with  $10/11$ ths of the dose received by the cells on the upper surface.

Since some tissues respond to a small amount of radiation and others require a greater quantity, it is difficult to determine amounts of radiation in terms of given units.

In general, it may be stated that malignant growths are treated locally with the radium, and when they respond, X-ray is administered to the surrounding tissues. Thus in treating a carcinoma of the uterus, radium would be introduced into the uterine cavity. When the carcinoma gives evidence of retrogression, X-ray therapy is administered through the abdomen.

Radium should be selected in angiomas, in intramural fibromyomas in young women when it is desired to retain ovarian function, and in the treatment of superficial lesions so situated that the effect of the X-ray upon the deeper tissues is not desirable.—*Urologic and Cutaneous Review*, Jan., 1922.

## EDITORIAL

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### THE NEUROPATHIC CONSTITUTION

THE neurotic element in certain diseases of childhood must not be overlooked since many children show evidence of a neuropathic constitution at an early age. The manifestations of such a constitution are an abnormal reaction both in intensity and duration, to physical and emotional stimuli. Certain forms of reflex irritation which a normal child may disregard are likely to produce marked symptoms while the emotional sphere of the child is intensely affected by its environment.

The cause of the unstable nervous system is mainly hereditary. As a rule the parents are neurotic or there is a family history showing a neuropathic taint. The child's environment is usually responsible for the development of the neuroses and psychoses which are liable to occur in these children. Certain nutritional disorders also disturb the normal balance of the nervous system and spasmophilia, hypertonia, the exudative diathesis and malnutrition with anemia are frequently found as an underlying condition.

The neuropathic infant is a poor sleeper, cries overmuch and is readily frightened. It is subject to frequent attacks of vomiting and diarrhea. Often outbursts of anger will occur during the first year of life and the infant demands the mother's entire time, day and night. As the infant grows older it becomes headstrong and self-willed. One of the greatest difficulties which these cases present is to make them eat the food selected for them; they will only eat certain things and will rather starve than eat what is set before them. Another difficulty is to make them sleep as much as they should. During sleep they often cry out, jerk and twitch or toss about constantly. They often suffer from night terrors or somnambulism. Many phobias are observed among these children; they are afraid to go to bed in the dark and they may have abnormal fears of certain animals or certain kinds of food. States of mental excitation and depression frequently alternate. They are abnormally imaginative and often

given to the fabrication of long stories of personal adventure (pseudologia phantastica). They become truants at school and they are often untruthful, although appearing to be unusually bright and often possessing a certain personal charm. Some of the stigmata of hysteria are usually elicited in the careful examination of such children. Children are by no means exempt from hysteria, and sex bears no etiological relationship to the disorder. Although it may be encountered in early childhood, still it is rare before the tenth year, and most prevalent at the period of puberty and adolescence. Heredity plays an important role, a neuropathic family history being present in most cases. In reviewing the child's life history it will be found that in most cases the manifestations of a neuropathic constitution were already present in early life. As exciting causes, emotional disturbances—especially fright, grief, jealousy and minor traumatisms in which the mental shock occurring at the time of the accident is entirely out of proportion to the injury sustained—are inseparably linked with hysteria. In the latter instance suggestion also enters into consideration, being one of the strongest influences in causing as well as in removing hysterical phenomena.

C. S. R.

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#### THE COMING MEETING OF THE AMERICAN INSTITUTE OF HOMŒOPATHY

THE American Institute of Homœopathy will hold its next annual session at the Hotel Drake, in the city of Chicago, beginning June 18th and continuing until June 23rd, 1922. Dr. Roy Upham, of New York, will preside. The programme as announced in the May issue of the *Journal* demonstrates that everything has been done in providing for scientific and social entertainment of members and visitors.

The coming meeting is one of unusual importance because of the business matters which will be brought up at the morning session of June 19th. These as to individual details are many in number, though they are best summarized as a study of a new and better organization of the homœopathic profession. Unfortunately, this has been called federation with an emphasis upon a dollar per capita from the membership of the constituent State societies. We say "called federation," and we do this advisedly, because technical federation

is but a small part of the proposed changes. Something more is needed than a mere rule of thumb to do this or that thing. No set of federation rules can be of the slightest benefit unless framed in a manner to bring about enthusiasm in their obedience without a necessity for enforcement ordinances.

The trustees at their meeting held in Cincinnati last November very wisely made the recommendation that one dollar per capita assessment from the State societies be eliminated from the federation plans, thus paving the way for a better organization in which important measures must be considered and adopted. The dollar per capita has always impressed us as a "penny wise, pound foolish" policy from the start. In the first place, the constituent societies, by giving that dollar, can very readily create among their membership that with such a small contribution, the obligation of the State to the National ends; and what is still worse brings forth a feeling that the State has for the dollar purchased something not definitely known, but really believed to be a physical asset from the National. At the start, then, we have a feeling created that the State owes the National nothing. This is bad.

The per capita assessment likewise has bred distrust, for it has placed the dollar in the vanguard of good organization.

The dollar never did amount to much as a sum of money. Our figures of the total membership of our State societies place it at 4,000, of which it is safe to say, that about two-thirds at most may be regarded as the full paid available for the dollar per capita. This would make the total sum available for the Federation for "propagandistic purposes" approximately \$2,600.00. The greatest amount thus received was last year, and was less than \$1,500.00. The maximum possibility is that of the State Society membership, namely \$4,000. How paltry is this sum as compared with the establishment of a feeling that means big business for the Institute. We do not know how many of the 4,000 State Society members are not members of the Institute, but we are willing to guess 1,000 as the minimum figure, with 2,000 as likely to be the correct one. With a good working agreement between State and National, there must be prosperity for both, which means enough of the State membership to join the National to make up the "Dollar Expectations" probably five fold.

There was an element which has been eliminated from the consideration of the question, which at the outstart en-

deavored to foster the principles of federation by leading the weak brother to believe that by entrance to federation, he might secure something from the strong one. We say this element is now non-existent. We trust that it is incapable of resurrection.

Now it is very evident that something must be done to establish a healthy relationship between National, State and local organizations. Of these, the latter is the fundamental, and must be regarded as the most important of all.

Unfortunately, the by-laws of most medical societies are antiquated, and what is still worse, have been so constructed as to prevent modernization. Last June at Washington, an advance was secured by suspending the by-laws. Any course of action that is secured by suspending the by-laws is fraught with danger, no matter how honest may be the intention of those who effect the change. Yet as we look back over the eight or more years in which reorganization has been discussed without one particle of result except "talk," we cannot but excuse the suspenders of the by-laws as being justified under the circumstances to commit any legislative hari-kari for the good of the Institute. Nevertheless in our more reasonable moments we know that subversion of the law is never a wise way of accomplishing even a worthy purpose. It now seems necessary to discuss anew at Chicago, the matters decided upon at Washington, and what is more, it looks very much as though a final decision cannot be reached until 1923, when the subject will be discussed once more with an entirely different personnel of members acting thereon.

With the co-operation of a monthly journal, the course is clear. No by-laws can be amended as extensively as required by the majority of medical societies without an expenditure of time which will not please the mass of physicians in attendance. To attempt to do so will take up the entire time for many days. The wise course is to place the entire matter in the hands of a well-selected committee, who, in addition to their appointment, must receive the sanction of their local and State societies, as representative physicians of their respective communities. We make the latter clause very emphatic. We know, our readers know, everybody knows, that there are men in every walk of life who carry no respect among their neighbors, but who can, by putting on a "bold front," for a few days establish a high reputation abroad where they are



not known as intimately as at home. Unfortunately these men are such skillful toreadors as to make very dramatic presentation of their bull throwing abilities, and a wild audience never knows the difference.

Here is how Pennsylvania revised its by-laws with a minimum expenditure of time. At the Harrisburg meeting in 1920, a committee was appointed to revise the by-laws with instructions to prepare their report for publication in the *HAHNEMANNIAN MONTHLY* for May, 1921, which was four months in advance of the next annual meeting. Thus every member knew what was forthcoming, and had ample time to consider the proposed changes and object to them, if he saw fit. The committee appointed consisted of members well acquainted with the needs of the Society. When the report was brought up on the floor at Bedford in 1921, we were enabled to pass upon those by-laws after one-half hour's expenditure of the Society's time. Needless to say the committee did not depend entirely upon itself, but solicited the opinions of the trustees and of the members at large.

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#### **CHAULMOOGRA OIL AND THE TREE FROM WHICH IT IS OBTAINED**

For probably a hundred years, chaulmoogra oil has enjoyed some reputation in the treatment of leprosy. Much of our information concerning the subject at the present time is based upon tradition, which is good only about as far as it goes; and no farther. The more recent clinical studies of the subject have demonstrated that like other traditional therapeutics, the old reputation of the drug has some foundation; sufficient, in fact, to stimulate the Agricultural Department at Washington to send out Joseph F. Rock, whose official title is Agricultural Explorer, Office of Foreign Seed and Plant Introduction. Mr. Rock's observations in Siam, Burma, Assam and Bengal are now published in a pamphlet (*Bulletin 1057, U. S. Department of Agriculture*) of 30 pages. Reference is made therein to the favorable experience with chaulmoogra oil in various quarters. What has interested us in particular, and carries with it some lessons relating to the reliability of drugs, is the author's conclusions. The real oil is obtained from the *Taraktogenos kurzii*. Numerous other trees have been claimed as its producer, but Rock denies their curative value. He

shows that the dealers in the oil have never seen the true plant in its wild state, and have depended entirely upon the uneducated natives of the jungles for the collection and marketing of the seeds to the commercial centers. As a result about 50 per cent. of the crop is lost each year; and, moreover, the seeds shipped by the natives are as likely as otherwise to include those of *Gynocardus odorata* as well as of numerous others. These other species, it is true, yield an oil of composition similar to that of the *Taraktogenos kurzii*, but, as said above, their value in leprosy is doubtful.

In closing Rock recommends measures which shall secure an adequate supply of the real chaulmoogra oil, estimated by him at one million of litres annually. His important discovery is that the trees can readily be cultivated in the botanical gardens of the expert drug grower.

Physicians may learn the lesson that until now they have been deceived as to the reliability of the chaulmoogra oil with which their patients have been supplied. Inasmuch as the treatment of leprosy has been in the hands of those who are making a clinical survey of the subject, and who should, therefore, be thoroughly conversant with the characteristics of the medicines they are employing, it is not unnatural for the uninitiated to ask the question: "If these men can have impure and improper drug preparations foisted upon them, why cannot a similar misfortune befall those of us who are devoted to the practice of general medicine?" We have been warned of this danger in the past as related to some commonly used drug, and the big manufacturing drug houses have taken the matter in hand as to digitalis, cascara, etc.

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#### UNIVERSITY OF CALIFORNIA NOT TO BE MICHIGANIZED

A RUMOR that the homœopathic medical department of the University of California was about to be closed or abolished, has had extensive circulation. A member of the staff of the *HAHNEMANNIAN MONTHLY* has made a personal investigation and elicited the information that the rumor is without any foundation. The department is going strong with twenty-one students this year. In fact, the institution is too prosperous for all connected with it to have any idea of stopping.

## GLEANINGS

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### SURGERY

Conducted by J. D. ELLIOTT, M.D.

**MANAGEMENT OF HEAD INJURIES: WITH A SHORT DESCRIPTION OF PNEUMO-VENTRICULOGRAPHY.**—Fobes reports an analysis of the last forty-three cases of this type of injury at the Metropolitan Hospital. He subdivides the injuries into fractures of base and fractures of the vault, the former being much more severe lesions. Operation is indicated in the stages of compensation, venous stasis and cerebral anemia, but is hopeless with symptoms of medullary paralysis. The routine procedure for diagnosis should be: lumbar puncture—noting pressure of blood—X-ray—pulse pressure taken half-hourly—eye and ear examinations and neurologic examinations. All efforts must be carried out with the intention to relieve pressure and anything which will increase it is contra-indicated. The operative procedure is a decompression, subtemporal or subtentorial, with appropriate treatment to the local condition.

There were twenty-two fractures of the base and twenty-one of the vault. Seventeen of the basal fractures were operated with a mortality of six. Five of these were moribund and two of the three patients who died without operation were in the same condition. Excluding these moribund cases the mortality was 31 per cent., which is excellent for this type of lesion. The percentage of cures was 45.4 and of improvement 13.3. The operative mortality could have been lowered by a more careful selection of the moribund cases, but the interest of the patient should be primary and an operation was undertaken, in some of these cases, as it offered the only possible chance of saving the patient's life.

There was only one death in the twenty-one vault fractures, and this patient suffered from a hernia cerebi, due to an old fracture, which interfered with the operation. Eleven patients were operated upon. One patient not operated upon was discharged as improved, so that the percentage of patients discharged as cured was 90 in both the operative and non-operative series. Two of the operated series suffered from headache and dizziness, and four of those not operated upon suffered from the same symptoms.

None of the twenty-two patients who have been followed up by the Social Service Department have suffered from epilepsy.

A plea is made for a routine lumbar puncture with a note on the pressure and the presence or absence of blood in all suspicious cases and a careful pulse pressure analysis.

After a description of the technique of ventriculography the author states that hydrocephalus is an indication for it. In this disease the ventricles are outlined, the size, shape and capacity can be estimated. If the third ventricle is dilated sometimes the aqueduct of Sylvius can be

definitely located as the point of obstruction. Usually, however, from a pathological standpoint, the obstruction is located at the foramina of Luchka and Magendie. This method is also of use in noting new growths or inflammatory masses infringing on the borders of the ventricles.—*Journ. of the Amer. Institute of Homoeopathy*, January, 1922.

**THE NON-OPERATIVE TREATMENT OF CHRONIC EMPYEMA.**—Gibbon believes that one of the greatest facts demonstrated by war surgery was that the chest could be completely closed after a penetrating wound. This has been applied to surgery of civil life by sterilization of chest cavities with the Carrel-Dakin method and then allowing them to close. In acute cases of empyema this method has been very successful in the hands of the author, when it has been carefully carried out with the proper incision and posture maintained so that the entire cavity could constantly be filled with Dakin's solution. For this reason the incision should not be at the lowest point, but over the cavity so that the erect posture will not empty the cavity.

The same results may be obtained in chronic empyema, although the course is more tedious and the cavity may refill and require secondary openings with re-sterilization before permanent recovery takes place. This method will prevent extensive operations with their high mortality and, if successful, the crippling and incapacitation which usually follow them.

The plan of treatment in the chronic cases has been as follows: The capacity of the cavity is estimated by filling it, with the patient in such a position that the mouth of the sinus is higher than all parts of the cavity; its exact position and shape is determined by injecting bismuth in oil and taking stereoscopic Roentgen-ray plates. When this has been done the position which the patient should occupy during the treatment in order to keep the Dakin's solution in contact with every part of the cavity, is known. It is only necessary to make the sinus large enough to accommodate two or three Carrel tubes. In the beginning of the treatment, if more than one tube is used, one of them is left open at the end, or a catheter is used in order to permit a thorough washing out of the cavity once a day. The cavity is then kept filled with the solution, just enough being added every two hours during the day and every three hours during the night to keep it full. With the apparent disappearance of pus, smears are taken from the depth of the cavity and from the sinus. When these smears are negative for three or four consecutive days the tube is withdrawn, regardless of the size of the cavity, and the sinus and the skin above it kept sterile with iodine until closure takes place. If the cavity and sinus are not sterile when the tube is removed, pus will soon be found again in the discharge and the tube can readily be reintroduced. If a reaccumulation of pus occurs after closure, or after healing of the sinus, as certainly will occur in some cases, the tubes must be reinserted and the sterilization repeated.

Five cases are detailed, the first two represent cures after a number of months of home treatment, in one of which there was a bronchial fistula; the third case represents a failure so far, although closure has taken place twice; the fourth case represents a prompt sterilization with permanent closure, and the fifth case a cure.—*Amer. Journ. of the Med. Sciences*, April, 1922.

**TECHNIC OF THE TREATMENT OF CARCINOMA OF THE BLADDER AND PROSTATE BY COMBINATION OF SURGERY, ELECTROCOAGULATION, RADIUM IMPLANTATIONS AND ROENTGEN RAY.**—The cases selected for this combination are those in which it is impossible to remove all the growth by surgery alone, and where the metastases are not palpable or general.

*Technic.*—The preliminary preparation of the patient consists of having the proper credentials for qualifications as above stated. If cystotomy is essential to procure better drainage of the kidney, it must be done first. When possible, it is advisable to follow this operation, while the wound is open, by electrocoagulation and radium implantations.

Needles are used containing ten m. of radium each. The threads may be carried out through a large drainage tube or alongside of the tube.

The use of intensive roentgen ray cross fire is of great value and should precede the operation. It requires about two weeks to give this treatment, but the delay is warranted by the results. It is for the purpose of destroying outlying carcinoma foci in the lymphatics and seems to prevent metastases. This is especially important in malignancy of the bladder, as in the majority of cases, metastases have already occurred before the patients apply for relief.

*The Roentgen Ray Technic.*—Divide the abdomen into two areas by a vertical line extending from the umbilicus to the symphysis with the lateral borders extending to lines which pass vertically through the anterior superior iliac spines. Posteriorly, there are two areas, one being on each side of the median line of the sacrum with the central ray directed through the sacrosciatic notches. The dose should be a skin dose through each area and this given well within the erythema dose. The amount of current must be governed by the factors of the particular apparatus used. Pfahler's factors are:

Filtration .....	6 mm. of aluminum
Skin Distance .....	30 cm.
Exposure Time .....	25 to 30 minutes
Spark Gap .....	9 inches
Amount of Current .....	5 milliamps.

All four areas should be treated on three different occasions. First treatment is given two weeks before the operation; the second two weeks after the cessation of the radium therapy; the third at the end of four weeks. The article contains the report of twenty-six cases treated.—*Arch. of Surg.*, March, 1922.

**RESECTION OF THE LUNG FOR SUPPURATIVE INFECTIONS WITH A REPORT BASED ON 31 OPERATIVE CASES IN WHICH RESECTION WAS DONE OR INTENDED.**—The results of palliative treatment in what might be called suppurative bronchiectasis have been so unsatisfactory and a fatal outcome so certain that the author feels that it is time he reported his experience in this field of surgery. Since 1914, when he performed his first operation, he has treated thirty-one cases. In fourteen of these a single lobe was removed for disease limited to that lobe with a mortality of 42.8 per cent. There were seven deaths in ten cases (70 per cent.) in which the disease was not confined to a single lobe and in which more was done than to remove a single lobe. In seven cases lobectomy had been contemplated, but

could not be completed; sometimes nothing but an exploration was carried out and death occurred in five of these, or 71.4 per cent.

Children and young adults are by far the best subjects; after the age of thirty-five the operation becomes extra-hazardous as the resiliency of the patient is impaired. A patient with a bilateral suppuration is considered unsuitable, and those with dense infiltration close to the mediastinum, while suitable for exploration, will probably not come to resection. An individual thirty-five years of age, who has been previously operated upon with resulting dense adhesions and perhaps fistulae, is an almost unwarrantable surgical risk. The co-existence of other serious diseases, such as cardiac, renal or grave metabolic disturbances, is a distinct contraindication. In a syphilitic, lobectomy should not be performed until the Wassermann examination has been negative for months. Systolic pressure of less than 100 would make postponement of an operation advisable.

A very thorough resumé of the symptomatology, the pre-operative preparation, the technique of the operation and the post-operative care of these patients is given. Among the points of particular interest are the importance of the X-rays and the bronchoscope. With these the really necessary things to know are: (1) Whether the disease is in the upper or lower part of the chest; (2) whether it is near the hilum or near the periphery; and (3) whether there is perhaps a foreign body or a tumor present in the bronchus as a cause of the suppuration. Two days of postural treatment are desirable in order to empty out the bronchial passages when there has been considerable daily discharge. Otherwise there is the danger of overflow into the healthy side as the patient must lie on the sound side on the operating table. It is advisable to digitalize for forty-eight hours, and the patient's blood must be grouped and a suitable donor provided before operation.

The anesthesia is of the greatest importance, and the author believes, from his experience in war and civil practice, that when there are few or no adhesions differential pressure nearly always is an absolute necessity. The intratracheal has been abandoned for the simpler and less dangerous intrapharyngeal method. When the more healthy part of the lung happens to be adherent to the chest wall, ordinary inhalation anesthesia may suffice, but no matter how extensive or virulent the lung infection is, unless there has been perforation into the pleura, or numerous pre-operative exploratory punctures have been made, astonishingly few adhesions will be observed.

As to the apparatus required, it is the simplest. To be sure, a nice little electric contrivance with pump and suction silently running, such as the one devised by Doctor Branower, may be a luxury, but the ordinary dental foot bellows, or at a pinch even a Paquelin bulb will furnish all the air pressure necessary. A manometer, when the chest is open, is unnecessary, because the operator can easily determine by the appearance of the healthy lung when dangerous force is being used. The pneumatic chamber is here unnecessary. The anesthetic, gas or vapor, passes through a rubber tube of size about 14 French for an adult, placed through one nostril, just as far as the pharynx (about three and one-half inches), the distance being clearly marked on the tube. Through too long a tube air may be forced into the stomach—a most disagreeable accident. To increase

the amount of pressure, the anesthetist places his hand over the closed lips of the patient with one finger, shutting off the opposite nostril. Differential pressure may also be secured with an ordinary well-fitting nitrous-oxide mouthpiece without the nasal tube, the gas as it comes from the tank having all the necessary pressure and the balloon acting also as an indicator. Should vomiting occur, however, or should suction be required to empty the pharynx or trachea, the gas mask must be removed, thereby permitting lung collapse. Therefore, the tube method is preferred. If it seems desirable to distend the healthy lung at the close of the operation, this can easily be done just before the last stitch is tied.

The operation should not be extended over forty-five minutes, and, if in doubt, should be carried out in two steps.

Conclusions: (1) Chronic pulmonary suppurations, wholly or partially, of the bronchiectatic type are rarely curable without the extirpation of the pathological focus. (2) The surgical removal of a single pulmonary lobe for chronic pus infection has a mortality of about 42 per cent. The danger is much greater when more than one lobe is infected, or in the presence of other complications. (3) Remissions of weeks or even months may occur spontaneously. (4) Palliative operations may be followed by improvement, rarely by apparent cures. (5) The commonest cause of the disease is infection due to the aspiration of infected material during tonsillectomy. (6) Radical operation should not be undertaken short of several months after the onset unless the disease is obviously spreading. (7) The proper type of operation should be determined only on full exposure by thoracotomy.—*Annals of Surgery*, March, 1922.

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## UROLOGY

Conducted by LEON T. ASHCRAFT, M.D.

HAEMOSTASIS IN SUPRAPUBIC PROSTATECTOMY BY THE METHOD OF THE "LOST TAMPON."—In the order of their frequency, according to H. Fischer, the complications apt to mar the results of suprapubic prostatectomy are hemorrhage, shock, "so-called" uremia, and sepsis. That the problem of haemostasis has not been adequately solved is shown by the fact that so many different methods have been advocated to deal with this complication. Anatomically, the bleeding bed of the prostate will be more or less filled with urine so that any packing for haemostasis easily becomes wet and loosened, and, therefore, ineffective. The dangerous bleeding comes, not from the mucosal vessels of the urethra or the bladder, which can be caught and controlled fairly easily, but from the bed of the prostate itself. As the true capsule is only fairly resistant, it is easy to see that in difficult enucleations it may be torn through and more or less severe hemorrhages may result from injuries to the plexus of Santorini and the vesical plexus.

Three different methods of controlling these hemorrhages have been suggested: (1) Packing of the prostatic bed with a gauze tampon; (2) continuous irrigation with hot saline or mildly antiseptic solutions; (3) the use of mechanical contrivances such as the Hagner bag. Plain gauze tampons have been tried on account of their simplicity and availability.

Squier packs the cavity with a strip of gauze which he leads out of the bladder through the drainage tube. Beer attaches a silk string to the packing and carries this out through the drain. Freeman employs a strip of iodoform gauze or gauze soaked in some styptic material. The pack is held in place by a pair of blunt forceps. The handles of the forceps are carried out through the incision and pressure is made on them with the dressings and the bandage. This method is open to the objection that the patient is wet and the packing causes a certain amount of pain. Continuous irrigation with hot saline or mildly antiseptic solutions has been tried without invariable success. Hagner used a rubber bag in the bed of the prostate which he kept distended with air. The objection to these mechanical contrivances is that they easily get out of order, are cumbersome, and are not always at hand. After all, the best means of controlling hemorrhage is the simplest and one which does not require special instruments, viz., packing with gauze. In order to overcome the tendency of the pack to become wet with urine, and, therefore, to become loose, pressure was tried. Deaver and Kammerer were the first to employ sutures of the intravesical wound edges over the tampon.

In Fischer's method the edges of the wound are caught up with a few Allis forceps. A strip of iodoform gauze is tightly packed into the cavity until it is filled, and the projecting portion of the packing is then cut off. If the hemorrhage is controlled, this tampon is removed and used as a pattern for the size of the final tampon which is secured by a stout silk ligature around the center. After the insertion of this tampon into the bed of the prostate the wound edges are sutured with strong plain catgut over the tampon so that the prostatic cavity is entirely shut off from the bladder. The prevesical space is drained by a small cigarette drain. After three or four days the intravesical sutures become loose and the tampon can be withdrawn by pulling on the silk ligature, the drainage tube being removed at the same time. Fischer claims for this method that it prevents the tampon from becoming soaked loose by the urine, and that it keeps the urine from coming in contact with the fresh wound cavity.

It is within the experience of the excerpter that he has never had a fatality due to hemorrhage. This may be due to the fact that severe bleeding is a very unusual feature, and when such has occurred following enucleation of the prostate it is our custom to flush the bladder with equal parts of peroxide of hydrogen and water, after which the first method outlined in this article is employed, namely, packing of the prostate bed with a gauze tampon.—*Annals of Surgery*, 1921, lxxiv, 768.

THE USE OF GUM-GLUCOSE SOLUTION IN MAJOR UROLOGICAL SURGERY.—O. S. Lowsley, J. H. Morrissey, and J. V. Ricci, emphasize the importance of a decrease in the blood pressure as an evidence of developing shock. In forty cases they maintained the blood pressure by the intravenous use of gum-glucose solution. In selected cases it was given during operation, and in others was given afterward. It was introduced into the vein not faster than 25 cc.m. per five minutes, according to the body weight. The noticeable clinical phenomena following its administration were the maintenance of the blood pressure, increased diuresis, increased thirst, the absence of nausea, and increased passage of flatus. The solution has no hemolytic or agglutinative action. There were no deaths among the patients



who were treated in this manner, but one of them experienced a severe chill.—*Journal of Urology*, 1921, vi, 381.

**RADICAL TREATMENT OF CANCER OF THE BLADDER.**—That the surgical treatment of tumor of the urinary bladder is very unsatisfactory may be seen by reviewing the record of 666 cases collected in 1915 by Garder. Of these 43.7 per cent. showed recurrence following partial resection, while 88 per cent. showed recurrence after excision alone. When metastasis has developed, curettage followed by cauterization gives relief. Radium was used in twenty-four cases of inoperable cancer with only fair success. Schmitz had the same experience. Radium is of value in cases of small multiple growths too widely scattered for resection.

When, however, it may become necessary to institute surgical interference the technique of both Squier and Beer should be employed. This consists of a long incision to make allowance for wide retraction, mobilization of the bladder, cauterization of the tumor surface on presentation, removal of the tumor and the searing of all raw surfaces with the cautery, and bathing of the wound with alcohol.

When partial cystectomy is not indicated the ureters should be transplanted and the entire bladder removed or extensively treated with radium. Uretero-enterostomy is more satisfactory to the patient than lumbar nephrostomy or ureterostomy. The early results of uretero-enterostomy were not encouraging. Since Coffey's work in 1911, in which he demonstrated his so-called "physiological implantation," the results have been more favorable as is evident from the reports of the Mayos. When partial cystectomy cannot be performed, ureteral implantation followed by total cystectomy or the use of large doses of radium is the operation of choice. The mortality will be high but a small percentage of cases will be cured.—*Journal of Urology*, 1921, vi, 173.

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## OTOLOGY, RHINOLOGY AND LARYNGOLOGY

Conducted by JOSEPH V. F. CLAY, M.D.

**THE DIAPHRAGMATIC PINCHCOCK IN SO-CALLED "CARDIOSPASM."**—Chevalier Jackson refers to the action of the periesophageal diaphragmatic structures, the sphincter-like prolongations of the crura as accounting for the prevention of retrograde leakage of a full stomach when the level of the oesophagus is placed lower than that of the stomach. It is momentarily relaxed by the co-ordinate deglutitory mechanism. The author feels that it is logical to attribute some cases of phrenoesophagospasm to a disorder of the co-ordinated innervation that interferes with the normal relaxation of the pinchcock at the proper moment in the deglutitory cycle. Failure of the diaphragmatic pinchcock to open normally constitutes stenosis in so-called cardiospasm and not an excessive degree of spasmodic contraction.—*Laryngoscope*, Feb., 1922.

**THE USE OF RADIUM TO EFFECT AN ATROPHY OF PHARYNGEAL LYMPHOID TISSUES.**—Sanford Winthers uses 50 milligrams of bromide of radium in a flat container with rays filtered by 0.83 millimeters of aluminum held directly against or near the tonsil. The radium should be with-

drawn every few minutes, or as often as it is comfortable for the patient, until a total exposure of 15 minutes. Some improvement is noted promptly but it requires several weeks for ultimate results. Two or three treatments may be required. Radium is considered more advantageous than X-ray because the radium can be applied directly to the tonsil tissue while the X-ray is applied from without. The tonsil is one of the most radio-sensitive tissues of the body.—*Laryngoscope*, March, 1922.

**GRINDING THE TEETH A PRETTY SURE SYMPTOM OF ADENOID GROWTHS.**—C. E. Benjamins has made some very interesting investigations of the symptomatology of adenoids and concludes that grinding the teeth is a common symptom and takes first place in adenoid symptoms. It is rarely observed in children who are not suffering from adenoids. It is more commonly observed during sleep and disappears after the adenoids have been removed.—*Laryngoscope*, March, 1922.

**DRAINAGE OF THE MASTOID AS A MEANS OF PREVENTING "SCARLET FEVER EARS."**—Dunlap calls attention to the rapidity with which suppurative otitis media complicating scarlet fever attacks the mastoids and this without distinctive mastoid symptoms. The chronicity of cases of scarlet fever suppurative otitis media may be avoided and the hearing conserved by early drainage of the mastoid.—*Laryngoscope*, April, 1922.

**THE NOSE AND THROAT AND THE ENDOCRINES.**—Wiedner calls attention to age as an important factor in the endocrine states. In early childhood the sexual endocrines are dormant and the thyroid function below par, while the pituitary function is supreme. During this period there is rapid growth of bone with the presence of large tonsils and adenoids and the exudative catarrhal conditions of the nose and throat, a lowered immunity to contagious diseases—a sub-thyroid condition and a tendency to vago-tonic diseases, such as laryngismus, pertussis and asthma. As puberty is reached the gonads become assertive with many physical and psychic changes. The throat shares in the changing of the voice in the male. The turgescence and hypertrophy of the turbinate bodies frequently depend upon sexual excesses are observed as also other naso-sexual manifestations. Perversions of smell and the desires for odd foods are observed in pregnancy. In adult life combined action of the thyroid and adrenals balance metabolism. Hyperactivity of the thyroid gives rise to few local nose and throat manifestations. Persistent dryness of the mouth and a bluish appearance of the teeth are noted. In advanced cases the coagulation time is lengthened. As immunity breaks down, recurrent attacks of tonsillitis are observed. Hypo- or sub-thyroid function affects the upper respiratory tract, the inferior turbinates become hard and inelastic and there is a submucosal infiltration. Spasmodic nasal hydrops is frequently encountered. It may be that hay fever and rose cold are an adrenal thyroid hypoactivity as an underlying basis. Large tonsils and adenoids, infiltration and thickening of the larynx which may extend to the trachea and bronchi, producing asthmatic attacks—an evidence of hypothyroid state. The coagulation is delayed through disturbed calcium metabolism and these cases are liable to ooze after a tonsil operation. The ear also manifests changes in sub-thyroid cases. Thickening of the mucosa of the Eustachian tube and mid-

dle ear producing tinnitus arium and deafness. Otosclerosis has been attributed to subthyroid functions, others attribute it to dysfunction of the adrenal and pituitary glands. Hypophyseal conditions cause hypertrophy of laryngeal structures.—*Laryngoscope*, April, 1922.

## DERMATOLOGY

Conducted by RALPH BERNSTEIN, M.D., F.A.C.P.

USE OF THE X-RAY IN THE TREATMENT OF CERTAIN SKIN LESIONS.—According to Lowell S. Goin, Roentgen therapy is of value in the following skin conditions: Acne vulgaris, certain angiomata, boils, carbuncles, cutaneous horns, eczema, favus, lupus, several forms of nevi, many kinds of neoplasms, psoriasis, ringworm, rodent ulcer, various species of tinea, skin tuberculosis and venereal warts. The author reports three cases of eczema, three of psoriasis, one of acne vulgaris, one of ringworm of the scalp, and one carbuncle, all treated with X-rays. The reasons for the cure of carbuncles with X-rays are unknown. The results in psoriasis are not permanent, but they are as good as those obtained with any other treatment, and the advantages are that it is reasonably prompt in effect and is not disagreeable to the patient. Cases of acne that do not respond to local treatment with or without vaccines, respond to X-rays which are also specific for tinea sycosis. Cases of eczema beyond the acute stage do well under X-ray therapy.—*Urol. and Cutan. Rev.*, Jan., 1922.

THE RATIONALE OF X-RAY TREATMENT OF CERTAIN INTRACTABLE SKIN DISEASES.—In mild doses, radiant energy is a stimulant to all tissues, according to Walter S. Lawrence, while massive doses cause death to tissue, and between these two grades, various results may be obtained by varying the kind and quantity of the dosage. These variations are further multiplied by the fact that different tissues do not react in the same degree to a given dose. If tissue invaded by certain bacteria is irradiated, after a few days the bacteria are either dead or nearly dead, even though the same bacteria will withstand an almost indefinite amount of raying in pure culture. This is explained by the fact that radiant energy, though not destructive to bacteria, promotes the formation within the body of antibodies which are fatal to the bacteria. Blastomycotic dermatitis is due to a yeast fungus which is very susceptible to the antibodies elaborated in the tissues under the ionizing biochemical effect of the X-rays. In epithelioma, the cells are less resistant to the action of the X-rays than in normal tissue, and, therefore, the dose of the X-rays should be a little short of what would destroy healthy skin. The same dose is applied to keloids, corns, warts and senile keratoses, which present abnormal tissue of lowered vitality. In acne vulgaris the cure results from the elaboration of antibodies mentioned above. In chronic eczema, there is an area of skin lowered vitality from some unknown cause and the cure is the result of the stimulating effect of mild to moderate doses of X-rays.—*Urol. and Cutan. Rev.*, Jan., 1922.

EXPERIMENTAL INVESTIGATION OF SPECIFIC ELECTRICAL ALTERATIONS OF THE SKIN.—C. W. G. Mieremet reports experiments made in 1918 on

dead bodies and on living narcotized rabbits by pressing the copper socket of a movable electric lamp (220 volts, continuous current) against the skin. A few seconds sufficed to produce on the body green colored stripes corresponding to the socket ring. The spots are somewhat raised, hard at touch, and on being cut the skin appears to be thickened one-half millimeters (normally some tenths of a millimeter) and glassy. By firm pressure for twenty or thirty seconds, vesicles or white rings are formed around the green hard part while a contraction of the area surrounding the contact is sometimes seen. For checking purposes a wire heated in fire was pressed against the skin. This did not produce a thickening of the skin at all comparable to that produced by electricity. Similar color and other results were obtained on a living rabbit. The spots would loosen after eleven days and fall off entirely after seventeen days. These skin alterations cannot be characterized as a regular burn, nor can they well be called sores.—*Nederl. Tijdschr. v. Geneesk.*, Nov., 1921.

THE ETIOLOGY OF ACNE VULGARIS.—According to Franz Seibold up to the present time not much is known regarding this subject. The frequent appearance of acne vulgaris at the age of puberty seems to be correlated with seborrhoea oleosa, which often occurs at this age. Anemia, chlorosis and digestive disturbances also seem to play some part in the etiology of the disease. The author reports several cases of diffuse, and in individual cases very intensive, acne, in which the members of two families were afflicted with scabies. The relationship between the skin diseases now seems explainable as it is possible that the salve used before their coming under treatment may have been the causative factor; tar and chlorin may produce acne.—*Munch. med. Wchnachr.*, Nov., 1921.

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#### ROENTGENOLOGY

Conducted by WALTER C. BARKER, M.D.

X-RAY DERMATITIS.—Dr. Snow's article is the result of personal observations over a period of two decades in the treatment of X-ray dermatitis, and from a bibliographic review on the biological action of the X-ray covering seventy-three publications. In the introduction of this thesis, the causes producing X-ray dermatitis, are stated as, careless and unskilled use of the rays, inadequate filtration, improper balance of the factors, such as target distance, milliamperage, spark gap distance, time of exposure and interval between treatments, and also the susceptibility and idiosyncrasy of the patient. The operator should be protected, especially during fluoroscopy, from the direct rays, by enclosing the tube in a box made of material which is opaque to the Roentgen ray. An opaque diaphragm to limit the dimensions of the X-ray beam and a sheet of lead glass placed between the screen and the observer, are also important. Because the scattered radiations have the same wave length as the original ray, they should be cut off by arranging opaque rubber material between the operator and patient. It is also important to wear gloves and an apron made of material opaque to the Roentgen ray. During fluoroscopy, the patient should be protected from the ray, by exposing only the part of the body which is under observation. When Roentgenographic examinations are in progress and

during therapeutic administrations, it is well to have additional protection around the tube, such as the red Hercules rubber packing described by Pfahler.

Dr. Snow also mentions the importance of the care necessary in giving the proper dose. The technic is stated with the factors used by the meter and gap measurements, and for the fractional dose method. The chronoradiometer, the iontoquantimeter are mentioned. The author points out the fact that the skin effects are not dependent upon the qualities of the rays, but other factors remaining constant, the same biological effects may be obtained with a three inch gap giving twice the time of exposure as with the six inch gap. The experiments of Witherby are cited to substantiate this point.

Attention is called to the accumulated effects of the ray. While dermatitis may follow a single administration, it is more likely to appear after repeated exposures over a period of months. Codman reports three cases of dermatitis which made their appearance later than four weeks after the last exposure to the ray. Tucks reports a case of vesicular dermatitis following fifteen minutes after radiation. Pusey and Caldwell report cases of recurrences coming on months after the disappearance of the first attack of X-ray dermatitis. Haxthausen reports a case of ulcerating dermatitis occurring nine months after treatment, but this patient had an erythema a few weeks after the treatment.

Idiosyncrasy and susceptibility are important factors to consider. The skin of the same patient is not only more or less sensitive at different parts of the body, but may show varying degrees of tolerance to the rays on different days.

Acute X-ray dermatitis is similar in appearance to that due to other causes. However, it affects only the surface which is exposed to the ray, giving a sharp outline of the shape of the opening in the filter. There is itching, stinging and redness, followed by pigmentation, and in some cases, a telangiectasis develops months or years later. The second degree of dermatitis is associated with blister formation, and the third degree is characterized by escharotic destructions. The characteristics of the eschars produced by the Roentgen ray, are the slowness with which the suppurative process develops, and the length of time required for the granulating ulcers to cicatrize. Chronic dermatitis is found among operators and is manifested by atrophic changes in the skin and associated with hyperkeratosis and telangiectasis.

The author enters into a complete discussion, quoting many authorities, of the influence of the X-rays upon physiological chemistry, and of the possible causes of pigmentation and erythema developing as the result of endocrine changes, or from various chemical changes within the cells affected.

In the treatment of X-ray dermatitis, the author recommends radiant light and heat for the first and second stages and actinic radiation preceded by radiant light and heat, for the third stage. The reason for the selection of these modalities and the *modus operandi*, are clearly set forth and accurately described.

In the chronic form of X-ray dermatitis, radium is recommended for the keratoses, and skin grafting, for the fissures and ulcers.

After the thorough discussion of this subject and the extensive review of the literature, the author concludes that X-ray dermatitis will be less frequent if the idiosyncrasy and susceptibility of the patient, are given more consideration, and that much may be done to relieve the painful and protracted ulceration by the use of radiant light and heat, and actinic ray therapy.—*Med. Rec.*, Dec. 3, 1921.

**BIOLOGICAL DETERMINATION OF RADIATION DOSAGE.**—Wood states that in the treatment of deep-seated neoplasms by highly filtered X-rays, the dose must be sufficient to produce a slight erythema, but its application not prolonged beyond this point. The only means of direct measurement of the X-ray, is by the ionization chamber. The form in which this instrument is constructed for physical laboratory use, is not practical for the general application in therapeutic X-ray laboratories. Until some revised form of ionization chamber is devised, it is necessary to determine the proper physiological dose by other means. In order to determine what the depth dose is and also to test the tolerance of the skin, the author has experimented with mouse tumors.

The tumors found in the mouse are similar to those found in man in respect to the various ways in which they react to X-ray stimulation. The lethal dose will vary from one to eight erythema doses. This is important in view of recent claims of a so-called "carcinoma dose" and "sarcoma dose." It has been found that the same tumors growing in different structures of the body, offer different degrees of resistance to the X-ray.

In the experiments with mice tumors, it has been observed that the tumor cells cannot establish immunity to the X-ray when receiving numerous sublethal doses. If a tumor receives a sufficient number of fractional doses to equal one lethal dose, it will not grow when transplanted. Wood has found that a certain mouse tumor which has been transplanted for the past four years, and tested repeatedly, requires five erythema doses to kill the cells so that it will not grow when transplanted.

Therefore, to determine the erythema doses of any apparatus, all that is necessary to do, is to irradiate this tumor and transplant portions of it into mice, noting the amount of current necessary to prevent growth of the transplanted tumor cells. One-fifth of the amount of current necessary to kill all the cells, will be one erythema dose. As a factor of safety, one-sixth of the amount is administered as the initial dose to the human skin, and then gradually increased to a fifth.—*J. of R.*, Feb., 1922.

**THE ROENTGEN RAY IN UTERINE FIBROIDS: PRACTICAL DEDUCTIONS FROM ONE HUNDRED CONSECUTIVE CASES.**—Dr. Hanks states that the artificial menopause produced by the X-ray is very similar to the normal menopause. It is also possible to bring about a menopause and reduction in the size of a tumor without destroying all the sources of the supply of the ovarian internal secretions. In the series of cases reported, the sizes of the tumors vary from those which were just palpable to those of a full time pregnancy. The intramural hemorrhagic myomata in patients about forty years of age, give a hundred per cent. good results. Tumors of the non-vesicular type with no history of hemorrhage, recede more slowly and some failures were encountered in this group. Home complications need not contra-indicate the roentgen ray therapy, such as erosions of the

cervix uteri, degeneration of cervical glands and follicular cysts of the ovaries. The X-ray should never be used in the presence of large ovarian tumors or cysts.

The author's cases were divided into two groups. In the first sixty cases, the results were 80 per cent. without palpable tumor; and in the forty cases, nineteen were without palpable tumor. A description of the apparent failures is given in the text.

The author prefers X-ray to radium because the radium brings on the menopause too rapidly and is not so successful in the treatment of the larger tumors. There is more danger in the use of the radium, especially when latent pelvic inflammations are present.

In conclusion, the author states that it is surprising that thousands of women are still being advised to have surgical removal of uterine fibroids when the X-ray has no rival in good results, is easily accomplished, and is without accompanying penalties.—*Journal of Roentgenology*, February, 1922.

**X-RAY STUDIES OF MEDIASTINAL SHADOWS WITH SPECIAL REFERENCE TO DERMOID CYST.**—Kahn states that neoplasms of the mediastinum are relatively infrequent. Shadows which may be confused with them, are aneurysm of the arch of the aorta, Hodgkin's disease, enlarged thymus, submerged thyroids, abscesses, echinococcus and dermoid cysts. Of the tumors found in this region, fibromata, chondromata and lipomata represent the benign growths, but cannot be distinguished roentgenographically from the malignant tumors. Sarcomata and carcinomata may be either primary or metastatic. These malignant growths usually extend to the lung or pleura. When they involve the lung structure, it is possible to distinguish between sarcoma and carcinoma.

The roentgen ray examination will reveal the presence and location of a mediastinal tumor, but the history of the case seems to be necessary in order to differentiate the nature of the growth.

The author reports in full the history of a case of dermoid cyst in the mediastinum, including the report of the operation by Dr. Bloodgood, and the necropsy by Dr. Caldwell. Dr. Bloodgood, previous to the operation, had the radium diagnostic test applied. There was no reduction in the size of the tumor, and a second radiation was given. When the patient returned, there was a swelling over the sternum. Operation was decided upon, and when fluid was drawn from this tumor, a diagnosis of tuberculosis was made. Further investigation showed the presence of a cyst which was opened, but the sac could not be removed. Dr. Bloodgood believes that the death was due to two causes: First, because of operating too soon after radium therapy, which seems to make the tissues more susceptible to infection; and second, because of draining a cyst which could not be completely removed.—*Journal of Roentgenology*, March, 1922.

# THE HAHNEMANNIAN MONTHLY.

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JULY, 1922

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## THE KEY TO THE SITUATION

BY ELDRIDGE C. PRICE, M.D., BALTIMORE, MD.

(Read before the Maryland State Homœopathic Medical Society, May 22, 1922.)

WITH the flight of time the conditions and purposes of men so change that only prophetic vision can foresee future probabilities. Few are so uncannily possessed, and their predictions are rarely credited by those who are most potent in aiding in shaping the ends of destiny, otherwise the events of history would be vastly different. Prior to the advent of Hahnemann few men even dreamed of a coming reform that would so modify the practices of the medical world, that the desire of Bacon for specifics would be regarded as more possible of fulfilment than the Utopian dreams of many of his predecessors. Hahnemann came, and at his magical word there was a change. From being a chaotic uncertainty the practice of medicine became a beneficent art. Throughout the world the influence of the new light spread, and so completely was medical practice reformed that there are those today who feel that no longer should the tenets of Hahnemann's faith be emphasized, the situation having evolved the problem as to whether or not the time has come when a distinctive school of homœopathy need longer exist.

It is doubtful if any one now living would have the presumption to assert that he is a pure Hahnemannian homœopathic prescriber. I know no such twin to Hahnemann, no such paragon of knowledge of drug pathogenesis. However, a knowledge of drug pathogenesis seems to be going out of



fashion in the last few years. Observation and expectancy are rife. A great variety of drugless procedures claim the attention of both, or of all, schools of medicine, and to quite an extent drugs have become of secondary importance in endeavoring to restore the sick to health. In fact, so generally are drugs minimized in the art of healing, that it is questionable, if Hahnemann were living today, whether he would feel the urgent necessity for therapeutic reform, by which he was animated in his day. Were he living would Hahnemann not rather take the opposite attitude in many instances and advise drugs to be prescribed where they are now ignored? His crusade was a masterful plea for simplicity, and was directed against palliation, heroic dosage and polypharmacy, but the dominant school of today has out-Heroded Herod, and has abandoned simplicity for expectancy.

The science and art of both surgery and medicine have gone far ahead of the place they occupied one hundred years ago, and the thoroughly educated student of medicine of today is compelled to recognize the fact that both these arts offer many excellent aids that bear no relation whatever to homœopathy. While this is true, it is also true that homœopathy has a field wherein its application will bring about results unattainable by other methods; and it is in this field where the practical believer in homœopathy has the opportunity to demonstrate the efficiency of Hahnemann's claim.

Because there are other than homœopathic methods that will restore health to the sick, it does not follow that homœopathy may not also prove effective in the same fields. So that the believer in homœopathy may still use drugs in competition with the newly discovered aids. However, that is a matter of preference. In illustration of this situation attention may be called to the field of bacteriology, wherein toxins or anti-toxins may be used instead of drugs.

It has been many times demonstrated that drugs given in accordance with the principle of similars will cure microbic diseases, and it has also been proved that bacterins will do the same. Drugs, therefore, do not alone occupy this field, nor do the bacterins; it is a matter of preference which the physician uses. As these cognate facts should be recognized by all thinking physicians, so neither method should militate against the other. Such a broad mental attitude should animate the profession generally; toleration and liberality of

views would then follow, and the Golden Rule would be the guiding principle of the medical profession as well as of the laity.

Recently, one who stands quite high in the opinion of the medical world, said, "It is a fair assumption that there is no such thing as a new disease, at least there has been no discovery of a new disease in modern times." (Even in the case of the recently emphasized "sleeping sickness," history records an epidemic in Germany in 1712.—"Flexner, *The Times*.")

If this be fact then it is fair to assume further that there are no new micro-organisms or pathogenic toxins. The past century has furnished the world of thought with means for the discovery of causes of much that has existed for untold ages. The causes are old, and their effects are old, but the means for discovering the causes are new.

In the light of such truth we are confronted by the fact that if the sick can be cured by drugs at the present time, then by these same agents the sick could have been cured of the same conditions prior to the many revelations of the microscope. Further, by reversing the proposition, it becomes evident that if in the past health was restored by drugs, then at the present time the same results may be secured by the same means, regardless of the many and great bacteriological discoveries.

While the acceptance of such facts may make the therapist more or less independent of bacteriology, yet this attitude need not be inimical to the practical application of the microscope to a knowledge of disease in its multiform development, whereby pathological conditions may be revealed and diagnosis made more certain as a basis for approximating correct prognosis. Of necessity, the attainment of such accurate information must put the therapist into a much more favorable position for curing his patient, than he could possibly have attained in the days antedating present methods of diagnostic precision. No one should welcome these aids to the healing of the sick more heartily than the believer in homœopathy, for in his efforts to fulfil "the sole duty of the physician" it is incumbent upon him to lay under consideration all attainable knowledge of the condition of his patient, both objective and subjective.

The average older school medical practitioner of today is not greatly concerned about drug effects, either pathogenetic

or therapeutic, and certainly the finer details of drug effects do not enter his head. He knows nothing about them. His prescriptions are based on the pathology of the case, and subjective semeiology concerns him very little, or not at all. His *materia medica* includes about six drugs, according to the statement of a member of the faculty of a prominent medical college, and in all but organic diseases the patient is trusted to observation, palliation, expectancy and general hygiene.

In its wide-range application, and its remarkably benign results, surgery may be regarded as almost a divine art; and so may the therapeutic application of electricity, and the various other forms of drugless therapy. No wise practitioner of medicine will deny these facts, and no wise practitioner of medicine will refuse to take advantage of these various beneficent means for the restoration of health; and further, no student of the present situation will deny that these various mechanical aids may in no inconsiderable number of instances restore health as certainly as will the most homœopathically indicated of drugs.

All medical practitioners acknowledge that there are conditions which are amenable only to surgical interference. In such cases it is worse than useless to depend upon drugs. There are other conditions, however, wherein the question arises as to whether mechano-therapy, surgery or drugs should preferably be used.

So fully convinced are the members of the dominant school that drugs occupy a subordinate place in the art of healing, that at least one of their well-known colleges has deleted *materia medica* from its curriculum; the knowledge of *materia medica* presumably being regarded as unnecessary for medical practitioners, the six drugs to which reference has already been made not requiring a special chair for their inculcation. The history of medicine with its empirical foundation for the use of drugs, deprives this situation of surprise, and it is a quite logical sequence that mechanical means of all kinds are taking the place of drug therapeutics.

This state of affairs not only exists in the dominant school of medicine, but we find many members of what may be regarded as the distinctive school of homœopathy adopting very much the same attitude. Especially is this true of those whose practice is limited to some restricted field of work. In truth the various surgical specialists in all schools do the same opera-

tions in the same way, use the same local treatment, and prescribe much the same line of general medication. I mention this merely as fact, and not in censure. Together with this state of affairs there is a greater degree of toleration than formerly of one alleged school for the other, and a mutual recognition of educational attainment and ability, and in many instances about the only difference detectable is the *reputation* of school affiliation.

In the light of these facts there is nothing remarkable in the discontinuance of colleges in which homœopathy was taught, hospitals in which homœopathy was practiced, medical societies in which homœopathy was discussed, and in the death of their journalistic organs, for the obvious tendency of the powerful dominant school is to inhibit avowed homœopathic institutions, even before the time of consolidation of the two schools is ripe. These are but the shadows cast by the inevitable coming events, for there will be a time in the evolution of medicine when there will be no necessity for the segregation of one branch of the medical profession from the other, for all demonstrable medical truths will be but a part of the necessary knowledge of the properly equipped physician, and the two great branches will then be as one.

Homœopathy has been in successful practice for more than a hundred years. Its believers formerly increased in numbers and its organizations of all kinds multiplied, until the summit of its prosperity was reached within the last twenty years. Almost imperceptibly sustained action in this great field then began to wane, and the declension is still in progress.

The reason for this recession we have seen to be due in part at least to the progress in surgery and drugless therapeutics. Homœopathy, however, is no less effective than it has always been, when it is properly applied; but with the competition offered by the new fields of efficient therapeutic agents, together with the widely spread lack of confidence in drugs, not only has the unbeliever in homœopathy been influenced, but the practitioner of Hahnemann's art has been brought to realize that while homœopathy is quite as effective as ever, yet there are now also other effective curative therapeutic agencies and agents at his disposal.

Despite these facts, however, we may fairly claim that homœopathy is not dying, that it is widely practiced by the drug-using members of the older school of medicine; but it is

equally obvious that the distinctive school has in the past few years lost much in zealous advocacy.

Outside the field of chronic conditions it is doubtful if, in this day of drugless therapy, it is practicable for a man to earn his daily bread by limiting his practice to homœopathy. In the meantime let us have faith to believe that the day will come when the time-marking pendulum of medical progress will again swing to the side of drug study. In that day the general medical world will be convinced of the virtue of homœopathy, and Hahnemann's formulation will be in daily use by all practitioners, and there will be no distinctive school of homœopathy, any more than there is now a distinctive set of believers in the circulation of the blood, as in the time of Harvey. When that time draws near it will not only be useless to resist the great amalgamative development, but resistance will be in opposition to beneficent progress.

Personally, I do not believe this stage of thought evolution has yet been reached; neither branch of the profession is ready for it. The decision as to whether or not we shall continue to struggle until the great day of complete amalgamative preparedness, however, rests with us, for it must be remembered that the fate of an organization depends upon the organization itself.

Again it may be emphasized, that whatever may be our decision we need not fear that the *truth* of homœopathy will die. Homœopathy is one of the eternal facts which always has been, is now, and always will be. It has been formulated into a system and practiced daily, until now, as we have seen, it has by the force of its truth permeated the whole medical profession, and will continue to do its work until the whole lump is fully leavened, whether it be desired or not, or whether we continue to act as distinctive disciples of its gospel or not. That is not the question. The question is, as to the wisdom of striving to preserve definitely a body of truth seekers known as the homœopathic school; are we yet ready to trust the great truth in the hands of the world of medicine, or has the time not yet arrived? Is the world of medicine prepared to carefully study and apply pathogenic drug effects or not?

If we do not believe the time has come to surrender our trust to others, we have the key to the situation in our hands. This key is the knowledge which enables us to prescribe drugs homœopathically. It unlocks the great storehouse of drug

pathogenesis with its priceless jewels, and it does not prevent us from using any and all of the drugless methods when indicated, a practice which even Hahnemann the Great would not condemn; and it gives an advantage possessed only by those who can use this key.

There are times when homœopathy may be safely superseded, and there are times when the patient will die unless the homœopathically indicated remedy is administered; as witness the 30 per cent. mortality of the older school of medicine and the less than 2 per cent. mortality of the homœopathic school in the influenza epidemic of 1918.

In the days of Hahnemann it was his *materia medica* that proclaimed a new, beneficent and distinctive school of medicine; and the same *materia medica* has, in the face of great opposition, kept us a distinctive school of medicine up to the present time. Neglect its study and substitute for it palliation and drugless methods, and our school is dead before its time.

It is, of course, incumbent upon the practical believer in homœopathy to closely study his *materia medica*, whether he wishes to preserve the integrity of the school or not; but it is an *imperative* necessity if he expects the homœopathic school to survive as a distinctive branch of the medical profession, until thought-evolution has fully prepared the way for the whole world of medicine to recognize Hahnemann's profound formulation. Concisely, such is the situation.

The question, therefore, is: Shall our *school* continue to be *distinct*, or shall it become *extinct*?

The key to the situation is in our hands; what will we do with it?

Shall we yield to the premature amalgamative tendency, or shall we study *materia medica*?

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**ACTION OF ANTIGENS AND ANTIBODIES BY THE MOUTH.**—Savori asserts that the prevailing disregard for the gastric route for incorporation of antigens and antitoxins is a great mistake. It should be regarded as the great main route for true natural immunity. Subjects without antibodies in their serum, when given tuberculin systematically by the mouth show the appearance of antibodies in their serum. Giving the antigen parenterally induces a precipitate immunization against a given bacterium and its toxins, and renders the organism more resistant to it.—*Riforma Medica*, Vol. 38, No. 10.

## IPECACUANHA AND COMPARISONS

P. E. KRICHBAUM, M.D., MONTCLAIR, N. J.

(Read before the Homœopathic Medical Society of New Jersey, Oct. 13, 1921.)

I HAVE no apology to offer for bringing this old friend before you. On the score of a very general familiarity, it might appear that any detailed presentation of the polycrests of our materia medica is wasted effort, but on the other hand, it is well to remember that however skillful we may be in the use of these well-known tools, it is advisable to take them out occasionally for a sort of refurbishing. To sharpen their points of differentiation, to emphasize their salient and peculiar idiosyncracies; to dust away, here and there, a cobweb of forgetfulness. Such may be of value, and it is what I now propose to do with ipecac.

We have traveled some distance along the road to a mastery of our materia medica, when we are able to appreciate the marked individuality of our medicines. By the use of comparisons then, I aim to present to you a picture of ipecac. Perhaps I may only accentuate the outline as it already exists in your minds; perhaps I may but shade a feature, or possibly be able to clear up some confused resemblance, in your memory, to another remedy; in any event, I want you to see *ipecac*.

To briefly sketch the range of ipecac's action, I will quote Burt's division, which affirms that through the cerebro-spinal nervous system, ipecac has eight special centers of action, viz.: First, mucous membranes (lungs, stomach, intestines), mucorrhoea, catarrhal inflammation. Second, Stomach (vagi, violent nausea and vomiting). Third, Intestinal canal diarrhoea, catarrhal inflammation. Fourth, lungs, asthma, catarrhal inflammation, copious mucorrhoea. Fifth, cord, motor tract paresis. Sixth, skin, diaphoretic, pustular inflammation. Seventh, circulation, lessened blood pressure. Eighth, temperature lowered.

Out of this broad range of physical disorder, where ipecac may find a sphere of usefulness, I want to sketch a series of concrete exhibitions of human distress, where the typically individual ipecac picture may be clearly observed. We have our therapeutic framework, but to read that ipecac may be indi-

cated in affections of the mucous membranes of lungs, stomach and intestines, just prepares the background for our effort. Upon such a vacant generalization of canvas, we might line in scores of remedies. The first arresting stroke of our brush, however, comes with the mention of that disturbing phenomena, nausea. We have made a beginning. The nausea of ipecac is like unto no other. It is constant, continued, omnipresent, and gives us our first outline. But other remedies have nausea and vomiting. What concomitant peculiarities stand for the classical ipecac nausea and vomiting? We have alluded to the persistence of this nausea, for the ipecac nausea, unlike that of other remedies, continues even after vomiting. There is no relief. The ipecac sick stomach is just as obstreperous *empty* as full. Pul. will be fearfully sick till the offending matter is rejected, so will ant. crud. Ipecac holds it all in bitter recollection. This point of difference gives us two or three individual strokes for the likeness we are drawing. When we proceed further, and find a patient with a fairly clean tongue, in spite of such a gastric storm, again unlike Pul. and Ant. Crud. in these disorders of digestion, our picture grows. Right here, however, we must hold in mental reservation, the fact of cina's clean tongue in the vomiting of or connected with worm symptoms, or the uncoated tongue of Dig. when vomiting occurs in heart disease.

Our ipecac delineation grows bolder when we discover that the whole intestinal tract may be affected. The stomach and bowels feel as if relaxed and hanging down, like Staph. lobelia, and Tab.

Your patient may have been indulging in rich food, as pastry, pork, candy, ice cream, etc. He vomits bile and vomits just after eating, like arsenic. Arsenic, however, usually supplants ipecac when an actual catarrh of the stomach has been induced by errors in diet. Ant. crud. is a near relative of ipecac, but as before stated, the ant. crud. tongue, with its deep white coating, like whitewash, removes all confusion. In children who have been unwisely indulged at the table, ipecac often works wonders. The need, too, may be urgent, for these gastric attacks frequently culminate in convulsions. The movements are of the rigid tetanic form. If you have a teething baby with the characteristic ipecac vomiting, speedy relief may be obtained by giving this medicine, even convulsions averted if threatened.



Serious griping colic, with the pain radiating around the umbilicus like a hand clutching the intestines, belongs to ipecac and traces still further the lines of its individuality. Ipecac colic also shoots across the abdomen from left to right, is relieved by rest and increased by any movements, like bryonia. Ipecac presents three characteristic stools for our consideration: First, a foamy yeast-like bubbly fecal mass which Farrington claims looks like fermented molasses. Second, a mucus or watery grass green stool, and third, and last, the slimy, bloody, dysenteric stool of hot weather and gross dietetic errors. Accompanied by the characteristic nausea and vomiting, any one of these stools speaks for ipecac.

Ipecac and oncoming cholera-infantum are occasionally running mates. The face of such a child is one to remember, with its intense pallor and blue rings around the eyes. Likely the fontanelles are still open, showing defective nutrition. Nose bleed is often an additional symptom and shoves ipecac still closer for your selection. Ipecac has marked affiliation for hemorrhages. Dr. Farrington affirms that it should by no means be exclusively associated in our minds with stomach derangements. Of course, when indicated in any reflex cerebro affections, nausea and vomiting are present.

When ipecac fails in cases of gastro-intestinal diseases of children, Farrington gives a list of medicines which it is advisable for us to keep on file. They all lead away from the beaten track of the usual therapeutic procedure, and for that reason may be of value. *Oenothera biennis*, the evening primrose, common in fields and waste places, is an excellent remedy for exhausting watery diarrhoea. The evacuations are without effort and are accompanied by nervous exhaustion and even with incipient hydrocephaloid. *Gnaphalium* causes a watery, offensive morning diarrhoea which repeats itself often during the day. The child will have rumbling colicky pains in the bowels and be very cross and irritable. *Geranium maculatum* is another successful baby remedy. Child betrays a constant desire for stool, but for some time is unable to move the bowels. Then suddenly, without pain or effort, succeeds. The mouth under geranium is dry and the tip of the tongue feels burnt.

Paullinia sorbilis has a green, profuse but odorless diarrhoea; while under nuphar luteum the bowel discharges are yellow, worse in the morning, and attended by colic, or they

may be painless. This drug has been employed in the diarrhoea of typhoid. In infant diarrhoea it is still unverified, but if gamboge and chel. droneum fail you in cases of bright yellow diarrhoea, with exhaustion as a prominent attending symptom, nuphar luteum may save the day. Cholera infantum, of course, makes hundreds of calls for veratrum alb., camphor and cinchona to one for any of these little known medicines, but the indications for the familiar old stand-bys are so well defined, recapitulation of differences would take up too much time.

Traveling from below upward, in the mucous membrane affections where ipecac holds sway, we find very pronounced symptoms in the respiratory tract, to add to our attempted delineation of the ipecac *ensemble*. Coryza presents itself, then the stuffed up nose with the loss of smell, and finally ipecac's special signal epistaxis of *bright red blood*, associated with nausea, if much mucus collects in the throat. Of course, I appreciate that while I am seeking to show the ipecac picture in these head colds, you are mentally turning over your albums and glancing at allium cepa, euph., phos. and maybe arsenic, true and tried friends, all of them, and too familiar to require any mention. One point, however, I wish to make, don't forget that arsenicum follows ipecac in the catarrhs of fat, chubby children.

Remembering the action of ipecac upon the pneumogastric nerve, we are not surprised to find this drug useful in troubles which involve those nerves. Asthma and ipecac have many points in common. Take a stout person of lax fibre, either adult or child, sensitive to warm, moist atmosphere. When such a patient coughs, you will hear the rattle of mucus in the chest, but you will observe that none is expectorated. You will be told that there is a sense of constriction in the chest, aggravated by the least motion; brush aside these generals, and look for the *Red Strand*. If ipecac is to help your patient, you will hear of the characteristic nausea sooner or later. Arsenicum again runs ipecac a close second in asthma. but again it generally follows ipecac. Cuprum in asthma shows the typical cuprum marks, notably, the bluish face, the intensified throat constriction and the impending convulsions. Lobelia inflata joins this group, for it, too, is to be considered in cases of asthma where there is a weak sensation in the epi-

gastrum, spreading up to the chest, with nausea, profuse salivation and a feeling as if there was a lump in the stomach.

In cases of capillary bronchitis in infants, ipecac has won great laurels. It should not be difficult to discern the ipecac picture here. Observe the great accumulation of mucus in the chest, with rales clearly heard, both anteriorly and posteriorly; listen to the spasmodic cough, and note that this is generally attended with vomiting of phlegm. There is fear and anxiety, of course, and you might think of aconite, but the stage for giving aconite has passed. Ipecac alone holds the center of the stage. Its administration will certainly assist in clearing the mucus closed bronchial tubes. Be watchful, however, of the cough of such a patient. If the cough decreases too suddenly, the accumulated mucus is being retained, the patient grows drowsy, and ant. tart. is now indicated to avert impending paralysis. If the substance of the lung becomes involved, and a true pneumonia obtains, phosphorus may come forward as the medicine and ipecac recede. Terbinthina is to be thought of for the drowsy child, whose lungs seem all clogged up, but terebinth's peculiar urinary symptoms settle the question here. Lycopodium plays a part at times in the condition we are describing, but lycopodium shows its usual strong predilection for the right lung, and has a yellowish thick expectoration.

Naturally, you will be reminded of ipecac in certain cases of whooping cough. The child will stiffen and become rigid, lose its breath and grow pale or blue in the face. Finally, it will relax and vomit copiously of phlegm. Cina also should receive consideration in whooping cough for cina is something more than a medicine for worms. It, too, shows rigidity like ipecac, but in addition, Dr. Farrington speaks of the patient giving a queer clucking sound down in the œsophagus as the paroxysm passes off. Cuprum, we are told, is the complement of ipecac in whooping cough.

The ipecac headache is well-known. When ipecac serves here, our attention is first caught by the appearance of the classical nausea. Headaches, as if bruised all through the bones of the head and down into the root of the tongue. Rheumatism may be a causative factor in such head pains. But our ipecac patient, running true to form, complains most of the deadly stomach sickness induced by the pain. There is no disguise for this ipecac misery. The pallor about the mouth, and

blue rings around the eyes, speak louder than words. Ipecac may also be used in unilateral sick headache with this same deadly nausea. In that headache which is described as bursting, compare *varatrum alb.*, which has a bruised feeling here and there in the brain. *Ptelia* is recorded as having a similar symptom.

Ipecac has won great success in cases of hemorrhage from any orifice of the body. The deciding characteristic here is the bright red hue of the blood, together with the ipecac make-up. *Crotalus* lends a hand in certain forms of hemorrhage, but the discharge under *crotalus* is decomposed and dark. Our ipecac hemorrhage is very active, profuse, and to repeat, bright red. Dr. Nash has contended that ipecac is far more frequently indicated in postpartum hemorrhages than *secale*. Under belladonna, the blood is hot and red, but there is no accompanying nausea, and belladonna's throbbing erythism is absent. The *carbo veg.* call in hemorrhage comes from a very prostrated patient, who is clammy and white and cold, and yet wants to be fanned.

In fevers of an intermittent type, ipecac is occasionally to be studied. As one writer has said, ipecac is one of the best drugs to give, if your case is all mixed up. It is especially indicated when the chill is short, the fever long, and nausea and vomiting present at any or all stages.

Temperamentally the ipecac patient is difficult. His sufferings dominate his manners. Children are given to screaming and crying and adults betray their native irritability in moroseness, or are contemptuously critical. But an ipecac patient's sufferings require such prompt and decided alleviation, his distress is so dramatic, you are moved in sympathy and proud to be able to give relief.

Ipecac is a great remedy, worthy of study, as I have tried to show in this rough draft of its peculiarities.

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**DIGITALIS EFFECTS IN CHRONIC CARDIAC CASES WITH REGULAR RHYTHM IN CONTRAST TO AUBICULAR FIBRILLATION.**—Christian, reviewing his experience at the Peter Bent Brigham Hospital concludes that digitalis is fully as effective in the treatment of chronic cardiac cases without auricular fibrillation as it is in those with that symptom. Even when the heart rate is slow, striking digitalis effects may be produced whether fibrillation is present or not. If symptoms and signs of cardiac decompensation are marked, it is rare to fail to get a digitalis effect irrespective of what the cardiac rhythm is.—*The Medical Clinics of North America*, Vol. V, No. 5.

## THE VALUE OF THE TUNING FORK TESTS IN GENERAL PRACTICE

BY E. S. HALLINGER, M.D., HADDON HEIGHTS, N. J.

(Read before the Homoeopathic Medical Society of State of New Jersey, Oct. 13, 1922.)

USUALLY the great majority of cases with ear trouble that are treated by the specialist are first seen and treated by the general practitioner, and, as his is the opportunity *par excellence* to give either good, bad or indifferent advice, which will have, more frequently than otherwise, a definite effect upon the treatment and prognosis of a given case, a comprehensive use of the tuning fork tests applied to all cases, irrespective of the condition presenting, will give to the user data that he would otherwise be unable to obtain, and, in addition, will frequently reveal to him unsuspected conditions that in all probability would have escaped his observation.

The trite expression "that it's the little things that count," is particularly appropriate when applied to the examination of our ear cases, as here, if nowhere else, must we pay attention to details if we are to get the greatest benefit from our examination, and it is for this very reason, that a careful technique must be closely adhered to, as upon the manner in which we go through certain procedures, depends the accuracy of our findings, and upon them the diagnosis, treatment, etc., that is to be pursued.

Hearing tests are made for the purpose of determining whether the cause of the disturbance of hearing has its seat in the sound-conducting or in the sound-perceiving apparatus, and as a knowledge of the parts which comprise the same is necessary to the interpretation of our findings, we will state that the conducting apparatus consists of the external ear, canal, membrane tympani, middle ear with ossicles, eustachian tube and the antrum with the mastoid cells, while the perceiving apparatus is the inner ear, the labyrinth, vestibule and the cochlea with the terminal fibres of the auditory or eighth nerve.

A diminished auditory function, due to a disease of the conductive apparatus is indicated by a diminution or loss of air conduction with a normal or increased bone conduction, while on the other hand a diminution of bone conduction with either a normal or diminished air conduction is indicative of a disease of the perceiving apparatus. These facts are based

upon the findings of the men whose names are applied to the tests, a description of the same following:

Weber found that when a vibrating tuning fork was placed upon the skull of a person of normal hearing, it would be heard more distinctly in that ear, the external meatus of which was closed or plugged. Therefore, if we have any obstruction of the external canal, the fork will lateralize to that side. The Weber test is of marked diagnostic value in unilateral deafness, or when deafness is more marked on one side, in a bilateral condition involving the conductive apparatus.

Rinné observed that normally the perceptions of tone of the vibrating tuning fork were heard longer when held in front of the ear than when placed upon bone. In cases with impaired hearing, we say we have a positive or + Rinné if the fork is heard longer by air conduction; while if bone conduction exceeds the air conduction, the result is recorded a negative or minus Rinné. The latter represents, or rather, indicates, an involvement of the conducting apparatus, while conversely if it is a positive Rinné we know we have a disease of the perceiving apparatus.

Schwabach found that when the sound-conducting apparatus was involved, or impaired, as a result of disease or obstruction of the external canal, tube or middle ear, that the vibrating fork is heard for a shorter period of time and with diminished intensity, aurally and with an increased intensity and for a longer period of time by bone conduction. He also further observed that both air and bone conduction of sound are diminished in diseases of the perceiving apparatus or auditory nerve. Marked shortening of the duration of the perception of sound or tone of the fork, by bone conduction then indicates a nerve lesion. Normal or increased perception of tone, by bone conduction with a *diminished* air conduction indicates an involvement of the middle ear or any part of the sound-conducting apparatus. The fork that is best adapted to general use is the CI 256 DV weighted, to obliterate the overtones, and the method of applying same depends upon the test being made. Normally air conduction exceeds bone conduction about 30 to 40 seconds, and in making a comparison of the findings of the various tests, this fact must be borne in mind.

The first test made is the Weber test, which is for the

purpose of determining whether the fork is lateralized to either side, and is accomplished by placing the vibrating fork upon the forehead just above the roof of the nose, making pressure alternately lightly and strongly to bring out or accentuate the vibrations of the fork. If we have a patient who complains of impaired hearing, due to an obstruction of the external canal, or to a closure of the eustachian tube, or if we have a middle ear condition such as a secretory catarrh, or any other condition affecting the conductive apparatus, the vibrations from the fork are heard with the greatest intensity on the affected side, if the condition is unilateral, in which case we say the Weber is either to the right or to the left, as the case might be, depending upon the side of the involvement. However, if we have a bilateral deafness, due to an impairment of the conducting apparatus, the patient will oftentimes be unable to state on which side the vibration of the fork seems the loudest, or the Weber will be found to lateralize to the side of the greatest involvement. Frequently we find individuals who state that the vibrations are heard with the greatest intensity in the well or unaffected ear, not because they do so actually, but because knowing that they are unable to hear well on the diseased side, think that they are making a misstatement if they should claim to hear the tones the loudest on that side. A good method to detect this error, is to watch the eyes of the patient while performing the test, as they invariably turn them to the side on which the vibrations are heard the loudest, as though they are looking for the sounds. Again, if we have a patient with impaired hearing, who lateralizes to the well side, it is diagnostic of an involvement of the perceiving apparatus, particularly if corroborated by other tests.

The next step of our examination is to determine the air conduction; with the fork vibrating from a moderately hard blow, we hold it by the handle, so that the prongs are suspended in a vertical position and approach the external meatus with a flat surface of the fork presenting, until we are within three-quarters to one-half inch from the meatus; asking the patient if sound from the fork is heard, and receiving a reply in the affirmative, we alternately approach and withdraw the instrument to and from the meatus until the patient says that he no longer hears the vibrations. Using a stop watch, we start the same and if the examiner's ears are normal, he holds the fork in front of his auditory meatus until he can no longer

hear the fork; upon which the watch is stopped and the time in seconds, denoting the difference in the sound waves perceived by the patient and examiner, is recorded. This performance is made on the opposite side and the findings of the same are likewise recorded.

In using the fork, particular care must be taken to keep the flat or broad surface of the fork in front of the auditory meatus, as it must be remembered that if held carelessly, so that the corners are presenting, that these being nodal points, the wave sounds are of less intensity and of shorter duration than those given off from the flat or larger surface of the fork; consequently if we are to have accuracy, we must bear this fact in mind, as the difference in the length of the sound waves will make a decided difference in the result of our findings. If the examiner has impaired hearing, he should test his fork upon himself and upon a person of normal hearing acuity and noting the difference, remember to allow for same in making the fork tests; or he should have someone at hand with normal hearing, upon whom he can make comparisons when performing the tests.

Having now obtained our Weber and concluded the test to determine the length of air conduction, we next proceed to find out the duration of bone conduction, by the method of Schwabach. With the fork vibrating, we place it upon the mastoid bone using, as in the Weber, a pressure alternating strong and light, to accentuate the vibrations of the fork; if the case is one with impaired hearing due to an involvement of the conducting apparatus, the tone of the fork will persist as long as normal, using yourself or a person with normal hearing for comparison, or will extend greatly beyond normal, and, in addition, will exceed the conduction by air. The stop-watch is used here, as in making the test for air conduction and the result of the difference, as to whether it is long or short, is recorded. Likewise as mentioned before, if the bone conduction is shortened, we are sure that the condition present is one indicating an affection of the perceiving apparatus. Both sides are tested in a similar manner. Having now made the Weber, and found that it lateralized or not, as the case might be, and found the results of the bone conduction according to Schwabach, we determine the Rinne by comparing the findings of the duration of the conduction of sound by air with that by bone, and if we note that air ex-



ceeds bone, the result is recorded a + Rinné, while if the bone exceeds air conduction, we record a — minus Rinné.

The tests having now been made, the question arises: "Of what value are they to the general practitioner; do you think their use productive of any benefit to the patient and to the physician?" My answer to this question is based upon the following reasons, namely: First, assuming that you desire to treat a case with an ear condition and granting that the welfare and interest of the patient is a prime consideration, it is essential that a knowledge of the condition presenting be understood before intelligent treatment can be undertaken. Second, their use, as before stated, frequently reveals unsuspected conditions, and, therefore, aids us in making a diagnosis which in turn points the way to the proper course of treatment. Third, they are the control by which the progress of a case can be determined and upon which the prognosis can be based. Fourth, the development of a technique, or a routine method of making examinations, whether applied to the ear or elsewhere, is bound to be of decided benefit, not only to the examiner, but also to the patient, as any attention paid to details cannot but ultimately result in the acquirement of the ability to *observe*, which in turn, means greater knowledge and ability or skill for the observer. Fifth, protection: Occasionally, it happens that physicians are sued for damages, not only upon real but upon fancied grounds, and as it is possible that a case might claim damages for an alleged injury to the hearing apparatus, and that deafness has resulted from our instrumentation, the value of making our fork tests *before* making other examination and recording the results of same, will always protect us from such undesirable procedures. Sixth. In concluding this paper, which has dealt with the tuning fork exclusively in ear conditions, it is well to state that in unilateral empyema or other conditions affecting the integrity of the maxillary antrum, that the fork test as applied by the method of Weber will frequently be of value, particularly when no ear conditions co-exist, *e. g.*, by lateralizing to the supposed affected side our diagnosis of an antrum involvement is practically certain.

**SPASMOPHILIA**

BY JOHN H. READING, JR., M.D., OVERBROOK, PHILADELPHIA

(Read before the Germantown Homœopathic Medical Society of Phila., Feb. 1922)

SPASMOPHILIA, as a definite clinical entity or disease, is seldom diagnosed or treated as such. Rather, a diagnosis is made and treatment is instituted for one of the symptoms alone, without consideration of the fact that the symptom is but a manifestation of an underlying diathesis.

The term Spasmophilia was first used by Thiemich to designate that condition seen in infancy in which there is a marked tendency to mild or severe convulsive attacks, or muscular spasms, of various sorts. The disease is characterized by increased irritability of the nervous system to mechanical and electrical stimulation; the clinical manifestations, including laryngismus stridulus, tetany and convulsions.

Laryngeal spasm, or spasm of the glottis, is the most common symptom of spasmophilia, and it may be the only clinical sign of the disease. In the milder form of laryngospasm the child suddenly stops breathing, and after holding its breath for a few seconds, terminates the attack with a loud, crowing inspiration, such as is heard in ordinary croup. The attacks usually come on when the baby is crying or during excitement. There is no complete shutting off of the breathing. As a rule, the parents see nothing alarming in this sign but it is important that the physician recognize this mild form of laryngeal spasm as a symptom of spasmophilia, because it sometimes changes rapidly into the more dangerous type of laryngismus stridulus. The severe attacks are characterized by a sudden spasm of the larynx with a complete shutting off of the breathing, the baby presenting all the evidences of suffocation. In a few minutes the spasm relaxes and the child takes a long, crowing inspiration. One attack may be followed by a number of others, more or less severe than the initial one. Usually the spasm occurs at the end of expiration with the lungs empty, but occasionally it comes at the end of inspiration with the lungs full, and this type is always dangerous as "heart death" may ensue without warning through spasm of the diaphragm. Laryngeal spasm is the symptom of spasmophilia

most often associated with rickets; it is rarely noted after the second year.

Tetany is the least common manifestation of the spasmophilic diathesis. It is characterized by tonic rigidity, or spasm of the hands and feet. The wrist is flexed and the thumb is extended across the palm beneath the fingers, which are flexed at the metacarpo-phalangeal articulations with the phalanges extended. The feet take the same position as do the hands. Occasionally, the arms and legs are flexed and adducted and very rarely the muscles of the face and trunk may be involved. Pain is often present and is made worse by passive movement of the affected muscles. In old cases the pain is slight. These tonic spasms occur in paroxysms and average about an hour in duration. They may last, however, from a few minutes to several hours or days.

The convulsions of spasmophilia are similar in appearance to those of true epilepsy. They vary considerably in intensity, duration and frequency. The attacks may continue daily for several weeks and then cease abruptly, without treatment, and never return, or, there may be but one convulsion during the course of the disease.

Certain constitutional spasmophilic anomalies in older children, which have been described by Stheeman, should be mentioned in a discussion of the symptomatology of this condition. They are: (1) Digestive disturbances and deficient nutrition; (2) irritability and weakness of (a) the vasomotor system, (angiospasm, spastic anemia); (b) the vegetative nervous system (vagotonia, cramps, hypermotility, atony, spastic obstipation, eneuresis); (c) the upper neurons (psychasthenia, neurasthenia).

Nearly always, the objective signs of spasmophilia are precipitated by some cause other than the underlying condition itself. These precipitating causes may be, any psychic disturbance, as anger, fright, or laughter; indigestion, gastric or intestinal; fever; teething, and the like. I have seen a spasmophilic convulsion precipitated by the child chewing upon a wooden tongue depressor, the gums being actually inflamed over an unerupted tooth. Precipitating causes are exceedingly important because of their diagnostic significance and because success in treatment depends largely upon their control or removal.

The three clinical types of spasmophilia: laryngospasm,

tetany and convulsions, may all be present in the same case, or any one or two of them may exist without the other. Some spasmophiliacs may show none of these clinical manifestations and when the condition is suspected, the diagnosis must be made upon one or more of the characteristic physical signs of the disease.

*Galvanic Hyperirritability* (Erb's Phenomenon).—This sign depends upon increased excitability of the peripheral nerves to electrical stimulation. In the normal child, when the stimulating electrode is applied over a motor nerve, no anodal or cathodal opening contraction is produced with less than 5 milliamperes of galvanic current. Electrical reactions which are considered definitely characteristic of the spasmophilic diathesis are those in which the anodal opening contraction (AOC) is less than the anodal closing contraction (ACC), and, is less than 5 milliamperes, or, the cathodal opening contraction (COC), is less than 5 milliamperes, in infants of one year and under.—(Von Meysenbug). For all practical purposes, the results obtained with the negative pole (COC), are sufficient.

*Chvostek's Sign* depends upon mechanical hyperirritability and is elicited by tapping sharply with the finger tip or percussion hammer, over the facial nerve. Upon striking the motor point, there will be a resulting contraction of the muscles supplied by the facial nerve. The muscles about the mouth or the eye are usually affected. Also tapping over the peroneal nerve will cause contractions of the peroneal muscles and jerking of the foot.

*Trousseau's Sign* is obtained by compression with the fingers, for several minutes, of the nerve trunks of the upper arm, in the region of the bicipital groove. This results in the hand assuming the typical position of tetany.

Of the three diagnostic signs, Erb's Phenomenon is the most delicate and the most constant, but its value is largely dependent upon the examiner's ability to read the results of the test. Long experience is required to obtain accurate readings, and many investigators have shown that it is most difficult to interpret the electrical reactions of older children. Anodal hyperexcitability reactions are obtained with increasing frequency as the child grows older and they should not, therefore, constitute a diagnosis of spasmophilia in the entire absence of clinical symptoms. While the coarser tests may not show in mild cases they are more reliable for general

diagnostic purposes, even at the risk of missing some latent spasmophilacs. The chief value of Chvostek's sign is in infancy, where it can usually be obtained in the presence of spasmophilia, and when positive, it cannot be mistaken and is diagnostic of the disease. Trousseau's sign, or compression of the arm, is painful, and in some cases its application may precipitate a severe attack of the disease. I saw one case go into a fatal laryngospasm when an attempt was made to demonstrate Trousseau's sign. The presence of either Chvostek's or Trousseau's sign is diagnostic of spasmophilia, but the absence of either does not rule out the disease. Therefore, in doubtful cases, it is advisable to employ the galvanic battery.

Spasmophilia runs an irregular and more or less protracted course, influenced considerably by the presence or absence of precipitating causes. The symptoms may disappear at any time, irrespective of the treatment instituted; or, they may remain absent for weeks or months and then reappear. The majority of cases, however, tend to improve under treatment and the prognosis is generally good. The electrical reactions usually persist for a short time after the other manifestations of spasmophilia have subsided. A fatal complication occasionally supervenes and these deaths are probably due to tetany of the heart-muscle; the heart usually stopping during an attack of laryngeal spasm or a convulsion. Sudden death may also occur from spasm of the diaphragm as mentioned before. Cases of sudden death in status lymphaticus are not due to spasmophilia. The later normal mental development of spasmophilacs is uncertain. A large number of them become neuropathic or mentally deficient to some degree. The convulsions of this diathesis bear no direct relation to the future development of true epilepsy. (Morse, Koplic, Holt, Broder).

In making a diagnosis of spasmophilia when convulsions are the predominating or only symptoms present, one must, if possible, eliminate all other causes of convulsions. Disease of the central nervous system must be excluded, as, cerebral tumor, cerebral paralysis, idiocy and meningitis. Eclampsia in the new-born is due almost always to cerebral hemorrhage. So-called "toxic" or "reflex" convulsions may be manifestations of either spasmophilia or epilepsy, but in epilepsy Erb's, Chvostek's and Trousseau's signs will be absent.

In those cases of spasmophilia characterized by well

marked tetany or laryngismus stridulus, the diagnosis is easy. Hypertonia is distinguished from tetany by the absence of the signs of spasmophilia and the fact that the contractions of hypertonia are persistent. The hypertonic infant is characterized by hypertonicity of all the skeletal muscles, as shown by ability to raise the head and grasp objects even in the early days of life, and by general spasticity. Increased activity of the smooth muscle fibres of the digestive tract expresses itself in the form of spasm, and, depending upon the region, presents the symptoms of colic, visible peristalsis, vomiting, constipation, or any combination of these.

Certain diseases of the brain may be attended by laryngospasm in combination with other bulbar or medullary symptoms. Spasm of the larynx is a characteristic phenomenon of pertussis and croup, and it also occurs at times in laryngitis. Laryngeal spasm may be caused by the pressure of an enlarged thymus, mediastinal tumor or abscess. But the course of spasmophilia differs entirely from these conditions and cough is present in all of them.

A very considerable amount of research work has been devoted to the etiology of spasmophilia in the last ten years. Investigators have shown that the disease is accompanied by a disturbance of metabolism, especially of the mineral salts, resulting in a loss of calcium; a negative calcium balance. The most recent investigations prove that the concentration of sodium, potassium and magnesium in the blood serum of patients with spasmophilia is essentially normal. On the other hand, the concentration of calcium is regularly lowered. The important factor in increasing the irritability of the neuromuscular mechanism in this disease is the decrease in the calcium concentration. The normal calcium content per 100 c.c. of blood serum in children is 10 mg. In spasmophilia the calcium may fall as low as 1 mg. per 100 c.c. in severe cases; usually it is between 5 and 8.

Whether this metabolic abnormality is the cause of the disease or merely a symptom has not been definitely established. Rickets, which presents many analogies to spasmophilia, shows a calcium deficiency and a lowered blood calcium which, however, is not so low as it is in spasmophilia. Although the incidence of rickets is known to be closely related to deficiency in the diet of the vitamins, Fat Soluble A and Water Soluble B, Von Meysenbug has shown that spas-

mophilic reactions are not dependent upon any lack of these vitamins in the food. Nevertheless, it is a tenable theory to regard rickets, laryngospasm, tetany and spasmophilic convulsions as more or less independent, co-ordinated affections, due to a deficiency of lime in different tissues. Since that deficiency is likely to occur in more than one tissue at the same time, the frequent joint appearance of the various affections may be easily accounted for. The symptoms of nervous hyper-irritability of the spasmophilic are probably to be explained by a deficiency of calcium in the nervous system; the brains of spasmophilic children having been shown at post-mortem to be poorer in calcium content than the brains of normal children. In rickets it is, of course, the bones that are lacking in lime. In this connection it should be noted that spasmophilia is rare in countries where rachitis is rare, as in Japan, and, spasmophilia is more common in the winter and spring as is the case with rickets.

In a further consideration of the etiology of spasmophilia, several factors play an important part. A neuropathic family history is frequently observed, particularly in older children. The disease is uncommon before the fourth month and most frequent between the sixth and eighteenth months. The majority of cases occur in association with gastrointestinal disorders and indigestion is the chief precipitating cause of symptoms. The diet, therefore, plays a most important role in the etiology of the disease. Spasmophilia is 100 times more common in the artificially fed, it is exceedingly rare in breast-fed infants, and no method of treatment is so effective as the feeding of breast milk. Cow's milk, therefore, has been made responsible for the disorder by a number of pediatricians; but, the frequent occurrence of spasmophilia in the artificially-fed seems to be explained by the prevalence of digestive and metabolic disturbances in infants getting cow's milk rather than by any peculiar factor in the milk itself.

Absorption of toxins from the intestinal tract has also been considered as a causative factor, but without sufficient definite data to substantiate the theory.

The parathyroid theory attributes the disease to anatomical lesions, hemorrhagic or degenerative processes, functional disturbances or absence of the parathyroid glands. Experimental or accidental removal of the glands results in tetany, but it is probable that spasmophilia and experimental tetany

are entirely different conditions. Post-mortem findings in spasmophilia show no definite lesion and in the great majority of cases, no abnormality of the glands can be demonstrated. Feeding of the gland has no apparent effect upon the symptoms. A number of recent investigators support the hypothesis that spasmophilia is caused, not by anatomical lesions of the parathyroids, but rather by a disturbance of their function and, that it is possible the parathyroid glands normally exert some control upon the retention of calcium in the system, and that this action is absent in spasmophilia. Without doubt, it will be wiser to experiment more carefully with parathyroid extract before discarding it as a therapeutic agent.

Tetany may be produced by forced respiration as reported by Gant and Goldman. Forced respiration causes carpo-pedal spasm, Chvostek's, Trousseau's and Erb's signs to appear. The underlying factor in the production of this form of tetany is an alkalosis. In this condition there is likewise a disturbance in the balance between the calcium and sodium of the blood. Wilson produced an alkalosis in his dogs after removal of the parathyroids. The alkalosis was made to disappear by the injection of hydrochloric acid and the symptoms of tetany were relieved by the injection of calcium salts. These experiments would tend to lend support to the theory that the function of the parathyroid glands has an influence upon the control of the metabolism of calcium.

The seasonal incidence of spasmophilia suggests the etiologic role of faulty general hygienic measures, particularly as regards sunlight and fresh air. Lack of these, together with insufficient exercise and improper feeding, undoubtedly plays an important part in the causation of spasmophilia, as well as rickets, as has been shown conclusively by Hess and Unger, in the latter condition.

In the treatment of spasmophilia, therefore, careful regulation of the general hygiene of the patient is of primary importance. The essentials are fresh air, sunlight and exercise; in fact, the hygienic measures employed in treating the spasmophilic should be the same as those outlined for the rachitic child.

Dietically, human milk has specific curative powers. It will positively cure the condition in young babies and should be substituted at once, wherever possible. When breast milk is unobtainable it will be necessary to regulate very carefully



the artificial feeding of the infant. In deference to the theory that some ingredient of the milk is at fault, and until cow's milk *per se*, has been ruled out as a causative factor, we should endeavor to feed a minimum amount of it to the baby. This is not difficult to do as spasmophilia seldom makes its appearance before the sixth month, and one may substitute cooked cereals and broths for one or more bottle feedings in babies of this age. The formula should contain a cereal diluent and a relatively high percentage of carbohydrate. Dextri maltose is the best sugar to use in these cases, in the proportion of 6 to 8 per cent. It is also well to boil the mixture before adding the carbohydrate to render the casein more digestible. In older children it is possible to eliminate milk almost entirely from the diet. Cereals, bread and butter, soups, green and starchy vegetables, beef juice, eggs and fruits form a well-balanced ration. Large meals are to be avoided and over-eating especially. It is essential, of course, to remove all forms of indigestion first and to bring the gastrointestinal tract as near normal as possible. It is not safe to return cow's milk in any quantities, to the dietary until all symptoms of the disease have disappeared and have remained absent for a number of months.

Medicinally, calcium in various forms has been used extensively with varying results. Howland and Marriott conclude without reservation that calcium has a very prompt effect in preventing all of the symptoms of active tetany and that it produces a temporary absence of both electrical and mechanical signs. As soon as the drug is discontinued, however, the symptoms return and some observers maintain that in older children, calcium feeding, even in large amounts, seems to have absolutely no effect upon the anodal reaction. All writers agree that calcium must be given in large doses and continued for a long time. The effect of calcium, therefore, is palliative rather than curative. The salt is administered by mouth, as calcium chloride, in doses of from 5 to 10 grains three or four times a day, in the food. In many cases the drug markedly disturbs digestion and it may be impossible to use it for this reason and also because of its disagreeable taste. Some work has been done upon the intravenous administration of calcium lactate but so far the data at hand is insufficient from which to draw satisfactory conclusions. Calcium chloride by mouth probably does not raise the calcium content of

the blood to any appreciable degree, nor does it reach the original cause of the trouble.

Phosphorus, in combination with cod liver oil, is a valuable therapeutic agent in spasmophilia as well as in rickets. Certain metabolism experiments have shown that this combination favors calcium retention and its good effect in spasmophilia may be said to be permanent. One dram of cod liver oil, to which has been added one-half to one minim. of phosphorated oil, is given three times daily.

The results obtained with parathyroid extract have not been as brilliant as the parathyroid theorists would lead us to believe they should be. Further experimentation with both the theory and the remedy may give us a solution as to the etiology, and an efficacious treatment of the disease.

The magnesium salts have been credited with some definite curative results, but their use has not been extensive enough to give them the same value as the calcium salts.

Symptomatic treatment is required when the disease manifests itself in the form of a laryngeal spasm, a convulsion, or severe tetany. The gastrointestinal tract should be cleaned out first; from above by castor oil, and from below by irrigation. Barley water for 24 hours followed by breast milk or a weak cow's milk formula, is the next step in the treatment. Severe spasm of the glottis requires energetic measures at times, to bring about inspiration. Dashing cold water in the face, submersion in a warm bath, camphorated oil hypodermically and artificial respiration are methods to be tried in case of necessity. As soon as the crowing inspiration occurs, complete rest and absolute quiet must be obtained for the patient in order to avoid precipitation of another attack. The convulsions, if recurrent, may be controlled by from 1 to 5 grains of chloral hydrate with 10 grains of strontium bromide in 1 ounce of water, per rectum, every two hours for three or four doses. Ether, or chloroform and lumbar puncture should also be thought of when the convulsions are frequently repeated. Severe and painful carpo-pedal spasm can usually be relaxed by 5 grains of bromide every four hours.

Spasmophilia is a diathesis to which the homœopathic remedy is particularly adapted. Some of the remedies to be studied are: Bromine, chlorine and iodine; cuprum, plumbum, sambucus, aethusa, citua, secale, calcarea carbonica and phosphorica.

## DISEASES OF THE GALL-BLADDER

BY L. E. STROHM, M.D., AUDUBON, N. J.

(Read before the New Jersey State Homœopathic Medical Society)

WHEN we consider the diseases of the gall-bladder, we of necessity must also consider the Diseases of the Accessory Ducts. We are more or less familiar with Catarrhal Jaundice, Chronic Catarrh of the Bile Duct, Suppurative Inflammation of the Bile Ducts, Occlusion and Constriction of the Bile Ducts, their etiology, pathology and symptomatology. We shall not, however, give a detailed description of each condition, but consider each one, as far as is necessary, in the differential diagnosis.

Acute Cholecystitis, Cholelithiasis, and Malignant Growths of the Gall-Bladder then shall claim our chief attention.

*Definition.*—Acute Cholecystitis may be defined as a state in which the gall-bladder suffers from an inflammatory process, which varies from a simple catarrh of the mucous membrane, to a suppurative process, and even a phlegmonous change in the walls may occur. It may be restricted to the lining mucosa, submucosa, or extend to all the coats. When the serosa is affected the process is called pericholecystitis or paracholecystitis.

*Etiology.*—It is caused by irritation from gall-stones. Infection by microorganisms. The time of the infection and the first symptoms of the disease may be widely separated. While the bile is antiseptic and may inhibit the growth of the microorganisms and their activity, the patient need but lower his vitality and the inflammatory process starts. The organisms found in the gall-bladder are numerous as to kind, and the typhoid bacillus, tubercle bacillus, the bacillus subtilis, the staphylococcus, and the colon bacillus have all been recognized, although it is believed that the latter is viable but for a short time.

*Pathology.*—The gall-bladder is filled with dark mucopurulent material and if the walls are involved, to any extent, there may be traces of blood. If the inflammation is very severe, and it happens frequently, perforation or gangrene of its walls may develop, and it not rarely happens that adhesions

form between it and the nearby tissues. Reidel states that the adhesions depend as to their location, to a large extent, upon the position at which the stone exists. Thus, if it be in the gall-bladder, the adhesions are between the viscus and the colon or the omentum. If it be in the cystic or common duct the adhesion is to the stomach, in the region of the pylorus. These adhesions are of much importance, because they may cause pain or obstruction of the pylorus or the duodenum.

*Symptoms and Diagnosis.*—Acute inflammation in the liver area, varying from slight discomfort to soreness, violent pain and collapse. There is tenderness in the region of the gall-bladder, causing much pain on palpation. The point of greatest tenderness is where the lower third of a line drawn from the umbilicus to the ninth rib joins the middle third. There is fever of moderate to severe grade, often ushered in by chill. There may be vomiting. As in a recent case seen by me, vomiting with clocklike periodicity, followed by chill, fever and sweat, suggesting malarial infection. After repeated blood examinations this was ruled out and the diagnosis established. With sudden onset the patient is seized with nausea, vomiting, threatened collapse and other symptoms of fulminant abdominal disease. It is well to be on guard in these cases, because often the family or some well-intentioned but meddling neighbor has the case diagnosed as acute indigestion before your arrival, and you will perhaps accept same, and wash the stomach with the tube, only to find that no relief is afforded, and on palpation of the gall-bladder and taking of the temperature and finding fever you are set straight. Often the pulse is rapid, the abdomen distended and its walls rigid.

Unless a history of gall-stone colic can be elicited or the pain is sharply localized to assist in diagnosis, or a preceding history of recent acute fever or typhoid, the condition may be readily mistaken for intestinal obstruction, or appendicitis. In a case recently seen by me, a diagnosis of chronic appendicitis and cholelithiasis was made, confirmed at operation by Dr. Barrett. This case had been treated by other physicians as acute gastritis. A subdiaphragmatic abscess or a gastric ulcer with perforation may simulate cholecystitis. When the gall-bladder is distended and extends down below the edge of the liver, no mistake can be readily made. Jaundice may be present or absent. Colic can occur without gall-stones being

present. Mild pain may be indicative of passing stone. Acute cholecystitis is rarely characterized by violence of onset; such is found with gastric ulcer perforation or acute pancreatitis. If these symptoms are present they may be due to perforation of the gall-bladder. Blood examination will reveal leucocytosis of polymorphonuclear cells. Occasionally during the course of acute ulcerative endocarditis, with secondary heart failure, the liver becomes enlarged and tender and chills and fever are met. ' Pyopericardium must also be excluded, if possible.

### CHOLELITHIASIS

*Definition.*—Is the term used in a condition in which the gall-bladder or the other parts of the biliary passages contain one or more gall-stones.

*Etiology.*—Predisposing causes: all such conditions which produce catarrh of the stomach, duodenum and biliary passages. A sedentary life with high living, obesity with its consequent enteroptosis, frequent child-bearing may aid in its development. Is generally a disease occurring after forty years of age, although I saw Dr. Erdman, in the New York Post-Graduate Hospital, operate a girl of 17, who had suffered for several years with the disease. It has occurred in the earliest years of childhood. Inflammation set up by bacterial activity, deposits of bile-salts, chiefly cholesterin, about a nidus, which we now know, often as an accumulation of microorganisms, is the cause of gall-stones. The most frequent causative organism is the typhoid bacillus, because they are known to reside in the gall-bladder for years. Monyhan made the statement, "Every gall-stone is a tombstone erected to the memory of the germs that lie dead within it."

The number of stones may be one or hundreds. In color they vary from light straw color to black. They may be round or faceted. In size they vary from gritty sand to masses as large as an egg or larger. The stones found in the common and cystic ducts are formed in the gall-bladder and then slipped from there. If a gall-stone lodge in the common duct, so as to completely occlude it, there is usually dilatation. If the obstruction is not complete and inflammation supervenes we have a state known as cholangitis, or suppurative angiocholitis. When the cystic duct is completely obstructed by stone, the gall-bladder may be enormously enlarged, filled with clear fluid

or with other gall-stones. In other cases the gall-bladder may undergo atrophy, and sometimes calcification results.

*Symptoms and Diagnosis.*—The mere presence of stones in the gall-bladder may never give rise to symptoms. Many patients have been brought to autopsy and gall-stones discovered, and yet, no symptoms during the life of the individual ever caused a suspicion of the condition being present. Only about 5 per cent. suffer with distinct symptoms of the disease. If the biliary tract becomes infected, or a stone becomes dislodged and slips into the common or cystic duct, symptoms may at once be caused by this mechanical difficulty.

The symptoms of biliary colic may be slight or severe, the pains may be mistaken for indigestion or gastritis. Usually the patient vomits and sweats profusely during the pain. The pain radiates to the right shoulder blade and the epigastrium. The facies of the patient expresses anxiety, or agony, and the skin is pale.

After the attack has lasted for some hours or days, jaundice may develop. It rarely is well marked unless the attack is prolonged or the obstruction is persistent. If the stone is in the cystic duct, no jaundice occurs, unless there is inflammation or swelling in the common or hepatic duct, or unless the stone is so placed in the cystic duct that it presses upon the hepatic duct. The presence of jaundice in a patient, who suffers with pain in the region of the gall-bladder, is a positive sign of much value, *but the absence of jaundice does not in the slightest degree negative the view that gall-stone is present.* Kehr says that in 720 cases operated on for gall-stones, 80 per cent. showed no jaundice.

The urine, if the stone is in the common duct, may show the presence of bile, and sometimes albumin is also found. If a few red cells are found, it may lead us to believe that the condition is due to renal colic.

If the common duct is completely blocked, the jaundice which develops is persistent and well marked and further attacks of colic may never occur. Febrile symptoms are usually absent, because the complete block bars infection from the intestine. When the common duct is not completely closed, attacks of biliary colic are frequent, and the degree of jaundice varies, because bile is permitted to escape into the intestine. Such attacks may also be caused by the stone becoming lodged in the Ampulla or Vater, where it acts as a ball valve.

In rarer instances, the stone becomes encysted in the wall of the duct, and so acts as a valve, and in other cases it may lodge at the junction of the cystic and hepatic duct, and by pressure cause symptoms characteristic in both the common and cystic duct.

The cases of partial obstruction differ from those of complete obstruction. They not rarely develop fever, owing to infection from the intestines. The fever may be irregular or intermittent in type—the intermittent hepatic fever of Charcot. In some cases the infection is so severe that suppuration takes place and conditions described under cholecystitis develop. Angiocholitis also occurs.

If the gall-bladder is very large and distended with stone and fluid, crepitus can sometimes be elicited. Gall-stones may perforate the gall-bladder and escape into the cavity of the duodenum and be carried away in the feces. They may cause a fistulous opening in the abdominal wall. They may pass into the lung. The spitting of bile, with severe cough, and dullness on percussion in the area above the liver, where pulmonary resonance is usually present, are signs of a certain diagnosis.

Perforation of the gall-bladder with fatal syncope has been reported during an attack of gall-stone colic.

So-called indigestion, flatulence—gas—“Fair, Fat and Forty” distress in the epigastrium, occasionally vomiting, so-called biliousness, constipation, perhaps a history of an infectious fever, in my opinion, can point to but one of two things: Disease of the Gall-Bladder or Appendicitis of a chronic type. If these symptoms occur in a patient who has had typhoid fever earlier in life, the suspicion is still more justifiable. A typical case of colic, where the gall-bladder can be palpated is easy. Not so with the man or woman just described.

The conditions to be differentiated from cholelithiasis are: Appendicitis, diaphragmatic pleurisy, gastric ulcer, gastralgia, the gastric crisis of locomotor ataxia, acute pancreatitis, and renal stone. Appendicitis is differentiated by the greater pain and rigidity in the appendix area, pleurisy is determined by presence or absence of friction sound. In gastric ulcer by history of pain immediately after eating or perhaps by haemorrhage from the stomach. Ulcer usually occurs in young women. Hyperchlorhydria is present in both conditions, and does not serve as a differential point. Where adhesions are

present, all signs may fail, because pyloric obstruction causes pain after taking food and produces hyperchlorhydria. Gastric crisis of ataxia can be differentiated by Argyll-Robertson pupil, loss of patellar reflexes, Romberg's sign. In pancreatitis the pain and swelling are usually a little bit lower and nearer the middle line, the upper abdomen presents a board-like rigidity, and there is apt to be shock and collapse. Renal colic causes the pain to radiate to the inside of the thigh, the head of the penis in men and the vulva in women. Movable kidney may cause obstruction by pressing on the common duct, but the floating kidney clears up the diagnosis. X-ray may often help us to a diagnosis. Not always.

Malignant growths of the gall-bladder may simulate all the foregoing described conditions. However, these growths, as soon as they reach any appreciable size can be soon palpated. Its position is about the normal area of the gall-bladder. It may extend toward the pelvis or may be erect and protrude through the abdominal wall, as an aneurysm protrudes from the chest. The growth may vary in size from that of a horse-chestnut to the size of a child's head.

Jaundice and pain are very constant symptoms of cancer of the gall-bladder. Musser found jaundice in 69 per cent., and pain in 62 per cent. of the cases studied by him.

Jaundice is generally caused by enlarged glands pressing on the ducts. Courvoisier's law should always be remembered; namely, that given an enlarged gall-bladder with jaundice, the cause is carcinoma, not gall-stone.

*Diagnosis*—Jaundice. Patient 40 and past, pain and rapid loss of weight, a palpable gall-bladder, weakness of great degree and cachexia are the chief signs of this condition.

127 White Horse Pike.

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CALCIUM LACTOPHOSPHATE IN CYCLIC VOMITING.—Green reports two cases of cyclic vomiting in children, in which a prolonged course of calcium lactophosphate in 2 grain doses three times daily caused a disappearance of the attacks. In adults suffering from migraine, 5 grains three times daily taken over a considerable time have markedly relieved the symptoms, and its value is urged in those cases of periodic vomiting and severe migraine which resist all other attempts at permanent relief.—*Medical Record*, January 14, 1922.



**SURGICAL TREATMENT OF GALL-BLADDER DISEASE**

BY WESLEY J. BARRETT, M.D.

I AM well aware that this question bears a wide latitude for discussion, not but that surgical treatment of gall-bladder disease is acceptable, but how, and to what extent, shall it be done? Naturally, such a mooted question has produced volumes of literature, as when men cannot be specific they abound in hyperboles.

It is not my purpose to go into any detail of operations, but simply to deal with generalities. Time would forbid the former.

That surgical treatment of gall-bladder is largely successful can well be attested. However, there is a variance of opinion centering about the remote effects, or results, rather than the immediate, and involves the question of Cholecystectomy versus Cholecystotomy.

Proper surgical procedure is always a matter of apt judgment, and in the treatment of gall-bladder disease a very large measure of good judgment is required to insure the best results. This is because we cannot lay down any fast or arbitrary rules for a given condition, but as in the selection of a homœopathic remedy, the cases must be individualized.

We have patients of various ages presenting themselves with gall-bladder troubles. My youngest patient was sixteen years of age and had a gall-bladder of about 200 c.c. capacity literally filled with calculi. The later decades of life are more susceptible to gall-bladder invasion.

The patients also present varied degrees of physique standard, as is obvious when we deal with those in advanced life, so that in the first place a weakened condition will determine the limitations of surgical procedure.

Many of the subjects of gall-bladder disease are short, corpulent individuals, and, therefore, present an almost insuperable barrier to such a technical operation as Cholecystectomy. So that in such cases, no matter how much preferable a radical operation would be, it is better to be satisfied with the less hazardous operation of Cholecystotomy. Intricate adhesions may also preclude the gall-bladder extirpation, as I observed a case where an expert operator not only failed to accomplish a Cholecystectomy, but also lost his case

by death; all on account of extensive and well-marked adhesions.

The conditions of the gall-bladder which draw our fire for interference are Cholelithiasis, Cholecystitis, Cholangitis, Malignancy and injuries, with various complications. The first three may be interdependent, and, therefore, the mode of treatment that will eliminate possible recurrence would reasonably be the logical selection.

In the first place, I would take the premise, "that surgical treatment affords the only sure method for permanent relief of gall-bladder disease." Our medical experts may take exception to this statement, but personally, I have not seen tangible results from medicine. And further, the long-continuance of the disease will probably lead to complicated sequelae and renders an operation more hazardous and difficult.

In making the statement that surgical treatment is par-excellent for gall-bladder disease, I do not wish to be understood that every case of jaundice should be submitted to laparotomy. Jaundice is not necessarily an expression of gall-bladder disease, as an edematous infiltration of the ampulla of Vater consequent upon duodenal catarrh may cause bile obstruction and consequently jaundice.

Acute Cholecystitis may present itself in varied degrees, just as does appendicitis. As an appendicitis, one attack may be all and recurrence not occur, yet we know that this is the exception and not the rule.

Acute Cholecystitis is usually attended with calculus formation, and may result in empyema of gall bladder, gangrene, perforation, cholangitis or even hepatitis or pancreatitis, simply backtelling effects which Dr. W. B. Van Lennep so frequently mentions in his lectures as occurring from the urinary bladder. In such a condition the gall-bladder is a septic focus and should be removed, *i. e.*, by Cholecystectomy, if possible. Since there is a possibility of several conditions co-existing with Cholecystitis, I repeat, we can lay down no arbitrary plan of procedure. If Cholangitis is present drainage is logical, and this, I think, can best be accomplished with the gall-bladder in situ. Occlusion of either hepatic duct with stone, of course, would presuppose a Cholangitis. Occlusion of common duct would indicate a damming back into liver as well as gall-bladder, and, after removal of such obstruction, drainage would be in order.

In a case of gangrenous gall-bladder or even perforation from stone, these, of course, would seasonably determine a necessary Cholecystectomy. Malignancy of gall-bladder would obviously demand a Cholecystectomy granting that same was not too far advanced.

In the event of empyema of gall-bladder this must need be drained and the greater the outlet the better; consequently a Cholecystotomy until the discharge becomes sterile is the logical treatment. I recently had a case of ruptured abscess of gall-bladder with free biliary pus in peritoneal cavity. In this case the patient was in bad condition and gall-bladder so shattered that I despaired of accomplishing anything. I placed a large dressed tube drain in suprarenal pouch well surrounded by iodoform gauze and put patient back to bed, as I supposed, to die. She did not die, but after a protracted stay in hospital came out in pretty fair and comfortable condition. In some of these cases the question of doing a two-stage operation may well be debated.

In the matter of gall-stones, these, if seated or encysted, always destroy the integrity of the gall-bladder, and such gall-stone nests make points for recurring stone formation, and, therefore, the presence of gall-stones, all other things being equal, should determine a Cholecystectomy.

In chronic Cholecystitis with or without gall-stones resulting in thickening of gall-bladder wall, the gall-bladder should be removed. In some gall-bladders, as result of obstruction of cystic duct, the gall-bladder contents have dried up, giving the interior of the viscus a greenish gray moldy appearance; such a receptacle is useless and a detriment and should be removed.

The strawberry gall-bladder, so-called, may be included under Chronic Cholecystitis. This supposed by one author to be a deposition of minute granular calculi in wall of gall bladder, is likely a condition of punctate areas of fatty degeneration due to low grade of inflammation. Removal only can eradicate this menace.

I may say, in passing, that the only way to make a typhoid carrier, so-called, safe as an associate citizen, is to take out his gall-bladder.

In some cases a common duct occlusion may not be possible to remedy. Under such circumstances an anastomosis of gall-bladder with duodenum may be accomplished. In the

treatment of gall-bladder disease with jaundice, due consideration must be given to blood coagulation when contemplating surgery. C. H. Mayo states that a coagulation time of ten minutes is frequent in these cases and 20 to 25 minutes not unusual; and, in some, a coagulation time of one hour is observed. Obviously a long coagulation period is a grave hazard in even a Cholecystotomy. In cases where a Cholecystectomy might be indicated, and yet cannot be done on account of hazard to patient, Mayo's method of splitting up gall-bladder on each side about one-half inch from liver, turning flap back and stripping mucous membrane from inside of bladder may be done.

I have stated that judgment as to what should be done in a gall-bladder disease is the great requisite. While it is true that Cholecystectomy is the operation of choice in most instances, yet the pathological condition with a consequent careful weighing of the mechanics involved is the proper consideration. With the simple Cholecystotomy the post-operative adhesions are such as to frequently embitter the lives of these patients. Moynihan also makes the statement that in carcinoma of gall-bladder and adjacent portions of liver, in 95 per cent. of these the malignant change is due to chronic irritation of gall-bladder. Because of the pathological relationship between appendix and gall-bladder, it is my belief that in all gall-bladder operations the appendix should be removed. In the final analysis it is my opinion that Cholecystectomy in most conditions is operation of choice, but may be precluded on account of circumstances. However, I believe it behooves the surgeon who essays to do repair work on any part of Nature's greatest creation—man—to court a happy medium between radicalism and conservatism. I am constrained to think that there is a tendency on the part of surgeons when once they have attained a degree of dexterity and can accomplish highly technical operations with skill to persuade themselves that the radical procedure is indicated and proceed accordingly for the sake of the thrill and to show how it can be done. Don't think I am endeavoring to heap encomiums upon our honorable profession, or its worthy exponents, but if I might by this suggestion arouse a disposition on our part to take careful account of ourselves that we may be weighed and not found wanting, I shall have accomplished a little.

## MEDICAL TREATMENT JAUNDICE AND BILIARY DUCTS

BY WALLACE MCGEORGE, M.D., CAMDEN, N. J.

(Read before the New Jersey State Homœopathic Medical Society in Trenton, N. J.,  
October 14, 1921)

IN the treatment of hepatic diseases, with biliary duct complications, considerable attention should be given to the general welfare and surroundings of the patient.

While jaundice, more or less profound, is a general accompaniment, there are many stubborn biliary duct cases in which icterus is not seen for days. On the other hand, the jaundice may be so intense that it is hard to tell the color of the patient, and yet there is an entire absence of pain. These cases frequently ensue in duodenal catarrh.

After carefully examining the patient and making a tentative diagnosis, when the remedy has been selected and directions given for its exhibition, do not overlook the diet and regimen to be followed.

In occlusion of the bile duct, in gall-stone colic, in catarrh of the duodenum, *fats* are contra-indicated. Chronic cases, however, can take butter without bad results. Two quarts of milk may be taken daily; gruel, toast, crackers, zwieback, mashed potatoes and meat in small quantity, cutting out pork and veal. Water should be freely taken.

Carlsbad or Vichy waters are freely prescribed, but they should be taken at blood temperature. Phosphate of soda, a teaspoonful in a tumbler of hot water on an empty stomach, two or three times a day, may be substituted for Carlsbad or Vichy. When the jaundice is stubborn, it is sometimes removed by cold water irrigation of the colon, the water being cooled to sixty degrees. This is known as "Krull's irrigation."

Many cases result from, or are aggravated by, lack of exercise among people who sit at their work all day long. In these cases, out-of-door exercise must be insisted upon. Golf, tennis, quoits, croquet are helpful. One thing more, insist upon regular meals, avoidance of overwork or heavy work, and a daily trip to the toilet at the same hour every day.

Now let us consider the remedies.

For jaundice, *Chelidonium* is a capital remedy. In jaundice from duodenal catarrh following a fit of anger, *Bryonia* is better. Other remedies for this condition are: *Aconite*,

*Arsenicum*, *Belladonna*, *Berberis*, *Carduus*, *Carbo. Veg.*, *China*, *Digitalis*, *Dolichos*, *Gelsemium*, *Hydrastis*, *Lycopodium*, *Mercurius*, *Nux Vomica*, *Podophyllum*, *Sepia* and *Tartar Emetic.* *Soda succinate* also has its friends.

For gall-stone colic, *Baptisia*, *Belladonna*, *Berberis*, *Carduus*, *Chelidonium*, *China*, *Hydrastis*, *Mercurius*, *Natrum sulph.*, *Nux Vomica*, *Opium*, *Podophyllum*, *Terebinthina*, have been helpful.

To cure and prevent the return of gall-stones, *China* occupies front rank, according to Dr. David Thayer. Professor Farrington recommends *Podophyllum* to prevent formation of gall-stones from the inspissated bile. Yet, some writers say *Podophyllum* is useless when there is no bile in the intestines.

A few indications for some of these remedies may be helpful:

*Aconite* is good in jaundice of infants. In adults it may be helpful in the first attack, but it is useless in repeated attacks.

*Arsenicum* should be considered when the jaundice follows an attack of intermittent fever.

*Belladonna* is good after the abuse or overdosing of quinine or mercury; in gall-stone colic the patient does not want you to come near him, nor to touch him, nor touch his bed; the pains come quickly and radiate in every direction; every time the stone moves he cries out with pain.

*Berberis*, the common barberry, is useful in biliary as well as renal calculi. Sticking pains under border of false ribs on right side; shooting pains from the liver down through the abdomen; patient cannot make the slightest motion, must sit bent over to right side to take the pain from sore region. In acute cases, second potency acts more quickly than the higher potencies.

In chronic jaundice, when everything else failed, an English doctor used to give a teacupful of a home-made preparation of the inner bark of the root every morning before breakfast. The most inveterate cases yielded to this treatment in three or four days.

*Carduus Mar.* is a valuable liver remedy, and is excellent in mild, vague, illy defined cases of jaundice and obstruction of the bile duct, working like a charm in dissipating the dragging pain and soreness observed in these cases. The following symptom in "Hering's Guiding Symptoms" points uner-

ringly to *Carduus* in passage of gall-stones: "Crawling sensation, like passage of a small body the size of a pea through a narrow canal, on the posterior side of liver from right to left, extending to pit of stomach, on a level with border of ribs; repeated three times after a pause of one minute, and lasting three seconds each time."

*Chelidonium* is a good remedy when liver, lungs and kidneys are all affected. This pretty little yellow flower growing near old fashioned smoke houses, wood sheds and hedges, familiarly called Celandine, is invaluable in catarrhal jaundice. The characteristic symptom of *Chelidonium* is pain under the angle of the right shoulder blade. This is a keynote and never leads the physician astray. Kent says: "When this pain is a shooting, stabbing, tearing, lancinating pain, extending through the back, *Chelidonium* will cure it. The instant it relieves, the patient says, 'My, what a relief, that pain has gone.' *Chelidonium* has relieved that spasm, the little duct opens up, and the stone passes out through the ductus communis choledochus."

While on duty in the hospital a few weeks ago there was a man that was yellow or green with jaundice. My colleague, Dr. Hutcheson, who knows a lot about X-rays, made a complete cure of him with *Chelidonium* 3x.

Last month I was called to the seashore to see a sick child. He had vomited a greenish fluid, had putty-like stools, was yellow in his eyes, and had a little cough. *Chelidonium* 30 was prescribed and he soon was himself again.

*China* is good in jaundice, and in biliary duct troubles. Dr. David Thayer, of Boston, said it will cure and prevent the return of biliary calculi. He writes: "*China* is indicated by all the symptoms which arise from obstruction in the gall-bladder; the colic, the periodicity of its recurrence, though the periods of its return are often very unusual and irregular; the yellowness of the skin and conjunctiva; the constipated state of the bowels; the scybalated character of the dark greenish stools, the scybala varying in size from the largest nutmeg to that of sheep dung, and even smaller than the smallest pea. I give, usually, *China* 6, six pills twice a day till ten doses are taken; then six pills every other day till ten doses are taken; till at length the dose is taken only once a month. I have not failed in a single instance to cure permanently and radically, every patient with gall-stone colic who has taken the remedy as above directed."

*Digitalis* is good in jaundice of infants, and in jaundice with vomiting in adults, when, with enlargement of the liver and icterus, there is constipation, or ash colored, whitish stool, and a weak heart.

*Dolichos* is the remedy par excellence when there is intense itching of the jaundiced skin.

*Ether* externally and internally is very good in the passage of gall-stones. It is better than *Chloroform*.

*Gelsemium*, while one of our best remedies in lazy liver, is not often used in jaundice. When it comes on soon after a fright, or from hearing bad news, *Gelsemium* will be helpful.

*Hydrastis* is good when the jaundice follows duodenal catarrh, and is recommended in gall-stone colic. When the skin and eyes are dark green yellow, when the urine is very dark from being loaded with bile, when the stool is light colored, and there is sinking and prostration, *Hydrastis* is the remedy.

*Lycopodium* is the first remedy some doctors think of when they have a patient with gall-stones. *Lycopodium* has pain in liver with bilious attacks and vomiting of bile. The patient is subject to gall-stone colic. After *Lycopodium* has been given, the attacks come less frequently, the biliary secretions become normal and the gall-stones have a spongy appearance as though being dissolved. If, with these symptoms, the patient is constantly belching, *Lycopodium* will surely do him good.

*Mercurius* is often indicated. In jaundice of new born babies it works quickly. When there is the coated tongue, the offensive breath, the imprints of the teeth on the tongue with jaundice, it is safe to give *Mercurius*. In stubborn cases, when the jaundice is excessive, when the skin is dark green, almost black, as is sometimes seen in cases of duodenal catarrh, the high potencies do not always respond, but given in massive doses of calomel, the obstruction is soon removed, the jaundice fades away and the patient becomes herself again. Such was my experience in a case away back in 1877. Burt in his *Materia Medica* says: "I have seen cathartic doses of from 10 to 20 grains of calomel expel the calculi and cure jaundice and disease." In stubborn cases this is worth remembering. What will happen in one case may be reversed in another. I have a patient that one dose of *Mercurius Sol.* 30 will stir up the liver, clean out the bowels and send him to bed for several hours. But he always feels better afterward.



*Natrum Sulph.* (Glauber's Salts) is said to be good in gall-stone colics, but I have had no experience with this remedy in this trouble.

*Natrum Succinate* (Succinate of Soda) is often used in catarrhal jaundice, in five grain doses every three hours. One of the hospital staff who was troubled with his gall ducts two years ago was cured with this remedy, and has had no return of the trouble. His physician gave him ten to fifteen grains three times a day.

*Nux Vomica*, high, is wonderful in relieving acute congestion of the liver, and served me well in a case of gall-stone colic in an old Quaker gentleman in 1874. I gave him a tea-spoonful of the two-hundredth potency every ten minutes till the stone rolled out. "There," said he, "it is gone," and went off to sleep. He was a grateful patient. Next morning on his way to meeting, he stopped at my office so I could look him over, and, although he was a yearly patient, as he shook hands with me, he slipped a five dollar gold piece into my hand. That, to me, was more wonderful than the action of the remedy.

*Olive oil* in one to three ounces, was used a good deal in gall-stone cases forty and fifty years ago. An old school doctor friend claimed to have been cured of this complaint by *olive oil* after his medicines failed. This was back in 1875. and as he lived until 1919 that, or something, worked well.

*Opium*, high, has served me well in two cases of gall-stone colic, but is often indicated in renal calculi. In those cases when the patient is impatient and will not give the potentized drug time to act, the opium in an H. M. C. tablet may give the relief demanded in shorter time.

*Podophyllum* was recommended by Farrington to prevent the formation of gall stones. When the stools are whitish, when with congested liver, there is inflammation of right lung, *Podophyllum* usually clears up both troubles. When in jaundice, the pain moves from the stomach towards the gall-bladder, with excessive nausea, *Podophyllum* is indicated.

*Sepia* is good when the complexion is sallow or a yellow saddle across the nose; liver spots on face, chest or abdomen.

*Terebinthina* has been used in gall-stone colic when the liver can be felt below the ribs; in chronic liver complaints.

In conclusion, *Carbo Veg.* should not be forgotten, when the jaundice sets in after too much or too rich food, when there is considerable flatulence on right side of the abdomen;

when the urine is dark red and bloody looking; when the patient is weak and cachectic; when he looks so wan that he may pass over the river in a little while, "on the brink of death, *Carbo Veg.* is a savior." Dear old Doctor Hering told our class this in 1866, and it is true. Remembrance of this guiding symptom has more than once saved my patient.

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### A CONSIDERATION OF THE CAUSES OF VAGINAL BLEEDING

BY JOHN C. CALHOUN, M.D., PITTSBURGH, PA.

(Read before the Homoeopathic Medical Society of the State of Pennsylvania,  
September 15, 1921)

BLEEDING not connected with menstruation may vary from a streak of blood or a slight coloring of a muco-purulent discharge, to a free flow of blood. Occasionally there is a hemorrhage sufficiently free to threaten the patient's life. In most cases, however, the blood discharge is slight and irregular and is of serious import only because it may have a serious condition for its cause. The following schema will be found of aid in the clinical study of any given case. Any of the following conditions cause, or may cause, vaginal bleeding:

1. Menstruation.
2. Inflammation or ulceration of the Vulva.
3. Vaginitis.
  - (a) Acute.
  - (b) Chronic.
4. Ulceration of the Vagina.
5. Endocervicitis.
  - (a) Acute.
  - (b) Chronic.
6. Ulceration or erosion of the Cervix.
7. Carcinoma of the Cervix.
8. Polypi of the Cervix.
9. Lacerations of the Cervix.
10. Endometritis.
  - (a) Acute.
  - (b) Chronic.
11. Uterine Fibroma.
12. Carcinoma of Body of the Uterus.
13. Retro-displacements of the Uterus.
14. Periuterine Diseases.

15. Ovarian Cystoma.
16. Salpingitis and Oophoritis.
17. Hemorrhagica.
18. Abnormal Pregnancy.
  - (1) Ectopic.
  - (2) Placenta Previa.
  - (3) Threatened Miscarriage.
  - (4) Miscarriage.
    - (a) Complete.
    - (b) Incomplete.
19. Constitutional.
  - (1) Diseases of the Circulatory System.
  - (2) Diseases of the Nervous System.
  - (3) Diseases or Disturbances of the functions of the Ductless Glands.
  - (4) Tuberculosis (Pulmonary).
  - (5) Syphilis.
  - (6) Nephritis.
    - (a) Acute.
    - (b) Chronic.
  - (7) Malaria.
  - (8) Lead Poisoning.
  - (9) Scurvy.
  - (10) Leukemia.
  - (11) Anemia.
  - (12) Hemophilia.
20. Injuries.
21. Abuses.

Of the conditions mentioned as causes, carcinoma deserves special mention because of its frequency and the necessity for early diagnosis.

Out of 183 cases of post-climateric hemorrhages reported by Neuman, carcinoma of the cervix was found in 100 cases, and carcinoma of the fundus in 18. This gives a little over 64 per cent. malignant.

Hemorrhage is the first symptom of uterine malignancy in about 44 per cent. of the cases.

At the present time, less than a third of the cases of cancer of the uterus are operable when they come to the surgeon.

So you see the responsibility of the general practitioner is great.

## EDITORIAL

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### MEDICAL EDUCATION: AN EDITORIAL NIGHTMARE

It is with the greatest satisfaction that the physicians of the day speak of the remarkable progress made in the various sciences connected with the healing art. The improvements have proceeded so rapidly that it has seemed almost impossible for us to keep apace with the times. New specialties have been created. Increased demands have been made upon the medical student not only as to the work he must do in the medical school, but also as to that which he must accomplish in his preparatory education. At the present time not only must he have two years of collegiate education and four years in medical college, but also one year of internship in an accredited hospital, making seven years in all after leaving the high school grade. The average age of graduation from high schools is said to be 19 years. Very many of our youth, however, attain this distinction at 17 years. Our observation would place the average at 18 years. With these facts before us it is easy to see that the average young man trained to practice medicine *starts* to earn his livelihood at the age of 24 to 27 years, which is certainly a mature period of life for depending upon his parents for support and subsistence. In fact, very few young men are able to remain unsupported until this late in life. More than ever the medical education, though by no means as expensive as the academic, costs a considerable sum of money. And yet we must admit that the present day medical curriculum demands for its proper consideration and understanding, certain pre-medical requirements. These have been entrusted largely to the academic institutions, which, we fear, in their anxiety for endowments, social prestige, etc., have forgotten the main object of their existence—namely, the education of our youth.

The years and expense of preparation are now such that the young physicians now settle in the large cities, while the country districts are being sadly neglected. General medicine, the most difficult of all departments of the healing art, is neglected for specialism.

The speakers at the exercises attendant upon the recent

commencement day of the Hahnemann Medical College of Philadelphia, all voiced the above sentiments, but offered no remedy. General Sawyer, with his wonted eloquence, spoke most emphatically of the necessity for more medical practitioners in the rural districts. Mr. Martin, an eminent equity lawyer, of Scranton, discussed at the annual banquet, the same ideas as those promulgated by General Sawyer at commencement, but in addition deplored the disposition to neglect general medicine in favor of becoming a specialist and the increasing difficulties of finding good, all round doctors.

The medical student has his say. In our news pages will be found some comments made by one of them. They make an interesting and, we fear, only too truthful monologue. The sketch is not a fancy one.

When it comes to the actual medical education of these young men, we fear that they are not treated in all fairness nor to their best interests. In a recent issue of the *Journal of the American Medical Association*, one of their number whose writing stamps him as possessed of excellent mentality and good education, deplores the disposition of medical teachers to give dogmatic instruction without the support of fundamental principles and logical presentation of facts. In making this complaint this young man is absolutely right. In fact, we know from years of association with medical educators that their disposition is to teach dogmatically and they wish to do so, and intend to do so until the crack of doom. They know and they do not hesitate to say that the medical student wants his knowledge given to him as dogmatic facts. It is by cramming the brain full of dogmatic facts that the poor victim is enabled to pass his college and later his State Board examinations, and all of this oblivious of the real object of the medical college, *i. e.*, to train men to heal the sick. What we do and are doing more and more every year is to cram a lot of valuable facts into the youthful brain, not being especially careful to have them so stored as to be capable of salvage on demand. If the student wants dogmatic facts, the teachers will teach that way.

As a matter of fact, the medical student, though a most sensible young man, does not really know what he wants. How can he know? We know that he does not care especially for carefully presented logical presentations of subjects demanding thought and prolonged attention on his part, although he really enjoys such teaching, but feels that it gets him nowhere,

because it does not help him at "exams." Given such logical training though unpopular at college, its good influence is felt after graduation, at which time dogmatic facts become useless. The practicing physician appreciates its importance, and does not hesitate to say so.

The youthful correspondent of the *Journal of the A. M. A.*, wrote truthfully and logically. But, unfortunately, he is but one out of many medical students the country over. Furthermore, it seems to us that in the case of a young man with an inquiring and logical mind, the dogmatic teaching may be a good thing in order to maintain the many-sided knowledge of the utility of medical facts.

The discussion of the proper preparation of the medical student for his life's work is apparently an endless one. All speakers and writers admit the evils, but present no remedy. They only suggest changes which increase the difficulties. Medicine is a most fascinating science. Were it not so, very few persons, indeed, would attempt its mastery in the midst of many difficulties which they must encounter in the progress of knowledge.

Let us be reasonable and not too anxious to attain ideals. The teachers in a medical college, each and every one of them, exact of the poor student that he shall know all that said teachers know of their own particular branches. This is a dogmatic statement capable of proof. The logical inference is that the recent graduate in medicine must be possessed of the entire lore of the entire faculty; in other words, he must know all that his teachers know; he not only must be a 100 plus man in all the fundamental branches, in general medicine and general surgery, but in addition to these, it is demanded that he be a universal specialist.

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#### THE LIFE EXTENSION MOVEMENT AS IT IS AND AS IT SHOULD BE

A FEW years ago there started a corporation composed of business men whose reputation in the community at large carried with it the highest respect. Well-known as capitalists, they were equally well-known as men of great foresight. This corporation carried a most fascinating title, namely, "life extension." Who is not interested in life extension? Who does not want to live out his three score and ten, and then

some in addition, providing, of course, that he can do so in health and comfort? "All of us," of course, is the answer. This corporation, which has been successful, apparently, from the start, so far as getting clients is concerned, operated as follows: Attractive circulars and literature were sent broadcast among the best thinking men of the country. The value of periodical examinations was demonstrated. For a definite fee, say twenty dollars, the client is given four thorough medical examinations annually. The adopted ritual apparently being quite complete appeals strongly to members of the laity who are not acquainted with the details of what a real medical examination consists. We must admit that from a "machine" standpoint, the course followed is ideal; viewed from the standpoint of individuals, their environments, their personalities and individualities, they are sadly wanting. It is the latter point upon which we wish to lay particular stress, and concerning which we wish our readers and their clients to take notice.

Necessarily great expense has been incurred in organizing the life extension syndicate. Elaborate central offices have been leased in one of the great buildings located among the "Grand Canyons of the North River," and this costs money. The office force, which does the paper work, *i. e.*, maintains the records, sends out the reports, is a large one and is expensive. Numerous employees of minor grade must be included. Lastly come the doctors who make the examinations; and with them are technicians, X-rayists, ophthalmoscopists, and special examiner after special examiner. The twenty dollars per annum, however, does not include the X-rayists and the other "experts." In the aggregate, these "extras" in the life extension furnish a nice little sum. We know not what may be the underlying expenses, *i. e.*, those other than those involved in the payment of the medical examiners. We do know that in general medical practice, the costs of carrying on our profession amount to approximately 40 per cent. of the gross. This figure assumed to be correct, would leave 60 per cent. for the doctors; but the business men back of the movement want dividends. Let them be satisfied with 10 per cent., leaving 50 per cent. or just ten dollars for the doctors. The probabilities are that the maintenance of such a large organization is far more expensive than we have intimated, notwithstanding the bulk of business done, and that the individual doc-

tors receive smaller pay per case than we have suggested. It is evident, therefore, that the money paid by the public does not go into the coffers of the expert men who render the services and for whose work said public pays. *In plain English, the medical profession is used as a catpaw to pull the capitalistic chestnuts out of the fire. If the cat is willing to permit the capitalistic monkey to do this work we have no complaint. At least we should have none.* Each person must be satisfied with his job or he would not continue it. So much for life extension as it is. It has evidently been sufficiently successful to lead more than one company to enter into the business. It is likely that there will be others.

It has been our fortune to discover that several of our most excellent friends and patients have been favorably impressed with the arguments in favor of periodic medical examinations, and not having the value of the same described to them by us, have become regular patrons of the corporations. Later they have realized the weakness of the system, and have consulted us concerning it. The life extension business must have taken a good hold on the public; otherwise there would not have been imitators. It is evident that it supplies a "long felt want." The public is evidently ready for it.

As these "life extension examinations" exist and are practiced, the best that can be said of them is that they discover organic disease after it has advanced sufficiently to produce organic changes or physical signs; early, it is true, but nevertheless organic. The principle is a most excellent one, but is in sad need of improvement. A very serious defect in it to date is the fact that it has not taken hold of the women, who certainly, by reason of their predisposition to cancer of certain organs are likely to receive the greatest benefits by the early discovery of organic disease.

Life extension properly practiced must be taken in hand by the general practitioner who knows not only diseases but the persons who have been attacked by the disease. He will recognize disease early and, what is more important, in its pre-organic stage. He knows the individual and his environment; his habits; his personality; his weakness and his strength. He can readily enter into the business among his patients; he can create among his clientele a system of periodic examinations at regular periods, and can afford to do so at the same fee as that exacted by the companies, and what is more important, he



can examine and examine better. He has a personal interest in his subjects, and understands how to handle them. We advise that each practitioner consider this subject seriously. Let him work out a formula to be followed, to be adapted to the needs of the patient examined. The patient will see the advantage thereof. The records being taken by the physician who treats them and their families will add to their practical value. Moreover, they constitute an invaluable tabulation of family histories of a kind that means something.

While the financial consideration is of minor importance in a matter having a bearing on the public welfare, nevertheless it is to be considered. The plea of "no time to attend to it" is not available, for the work can be systematized or carried on by appointment during hours or seasons which would otherwise have been spent in idleness. The mere fact that the appointments for such examination cover the so-called idle hours, is an added reason for the introduction of the life extension movement to general medical practice, for such examinations need never be conducted when the examiner is in a hurry. The corporation examination may be open to that objection, as necessarily, financial returns constitute the important factor, and to make these the larger, those who do the main work, must operate under more or less pressure, and may even do so to the extent of working beyond their capacity for the best results.

*By all means, let every general practitioner start his own life extension system. His patients will like it. They will welcome it. They will admire him for his interest in them. But let him do the work right and it will surely redound to the credit of medicine as a whole.*

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#### THE HOMŒOPATHIC MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA

THE annual session of our State Society will be held in Reading, Pa., during the last week of September, with the Berks County Homœopathic Medical Society as hosts. Already elaborate preparations are being made for our entertainment and instruction. It is desired to enlist all members as

active workers. To this end, those who have not been invited to present papers, but feel that they have something worth the attention of their fellow members should communicate promptly with the appropriate bureau chairman as follows: Clinical Medicine, Dr. W. R. Williams, Philadelphia; Surgery, Gynecology and Obstetrics, John C. Calhoun, Pittsburgh; Sanitary Science, Thomas D. Mills, Harrisburg; Ophthalmology, etc., Seymour B. Moon, Pittsburgh; Materia Medica and Therapeutics, Oliver S. Haines, Philadelphia; Pathology, Charles W. Ursprung, Lancaster; or with the secretary of the Society, J. Miller Kenworthy, 1625 Race Street, Philadelphia.

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**SIMPLE GOITER.**—McCarrison's investigations confirm the general views that goiter is a deficiency disease dependent upon an inadequate supply of iodine to the thyroid gland. The amount of iodine which is sufficient under ordinary circumstances fails when animals or human beings live under unhygienic surroundings, as in dirty cages or impure water supply. The deleterious agency is held by McCarrison to be fecal infection. For many years excellent authorities have contended that goitre was dependent upon water supply infected by fecal contamination. In the case of animals in dirty cages, the contamination takes place by their own feces. Some animals are more susceptible than others to gastro-intestinal infection carried in this way; hence the individual idiosyncrasy both to goiter and the size of the goiter that is so apparent in these experiments.

The chief known factors producing goiter are physiological, nutritional, metabolic, toxic, infectious and nervous—which in various combinations become active. So it comes about that while theoretically goiter may arise in consequence of actual deficiency of iodine in the food it is much more likely to arise and usually does arise when a number of factors combine to render the available iodine in the food relatively insufficient for the needs of the body under the conditions in which it finds itself.

In closing McCarrison shows that by attention to an increased iodine intake and by improving the hygienic surroundings he was able to eradicate goiter from a school where it had previously existed to the extent of 50 per cent. of the children in attendance.—*British Medical Journal*, April 22, 1922.

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**THE VALUE OF VACCINES IN THE TREATMENT OF WHOOPING COUGH.**—Paterson and Smellie, from experience gained in 58 cases of whooping cough treated by vaccines and 42 controls observes that in the vaccine treated cases, the average duration of the whoop was 4.8 weeks; in the non-vaccinated cases, 4.4 weeks. Even in the vaccinated cases treated in the first or second week, and occasionally before the whoop developed, the shortening of the disease appeared to be negligible. In several cases exposed to infection and seen early in the stage of incubation, vaccine treatment appeared to have no appreciable value as a prophylactic measure. It appears to the authors that the vaccine used failed to influence the duration or the severity of the disease either favorably or unfavorably.—*British Medical Journal*, May 6, 1922.

## GLEANINGS

### MEDICINE.

Conducted by CLARENCE BARTLETT, M.D.

**GAS OEDEMA COMPLICATING TYPHOID FEVER.**—Erkval points out that in the course of typhoid fever, the blood is often infected with a variety of organisms other than the bacillus typhosus. These germs usually invade the blood from the intestines during the stage of ulceration, and have hitherto been identified with the anaerobic bacteria. Infection with anaerobic germs is commonly overlooked because cultures are seldom made under anaerobic conditions. The author reports a case of typhoid fever in which the sudden appearance of gas phlegmon in the right thigh was followed by rapid extension of the area of crepitation and by the patient's death in twelve hours. He has collected 18 similar cases from the literature, showing that this complication of typhoid fever is not rare. In some cases stimulants injected hypodermatically have been suspected of being contaminated with gas forming bacilli, and though the author does not dismiss this explanation as altogether unsatisfactory, he attaches more importance to auto-infection through ulcers in the intestinal tract. He points out that gas forming bacilli are normally present in the intestines and that the most rational prophylactic treatment would be to keep typhoid fever patients on a lactic acid diet, which would temporarily discourage the growth of the gas forming bacilli. With this object, buttermilk or food to which lactic acid bacilli have been added, should be given. As in his case the disease began on the outer side of the right thigh, on which the patient had been lying continuously, he recommends shifting of the patient from time to time, so that no one part of the body shall become devitalized by pressure and thus favor metastatic infection.—*Upsala Lakareforenings Forhandlingar*, March 15, 1922.

**MISLEADING EPIGASTRIC PAIN.**—John Hay in the course of an article on angina pectoris comments on epigastric pain as follows: "It is remarkable \* \* \* how often a diagnosis of indigestion is made in part because the patient complains of stomach trouble, and also because the initial pain is epigastric or xiphisternal in site. The fact that the pain occurs more readily after food and is frequently terminated by the eructation of wind lends support to the diagnosis. The occurrence of pain in the epigastrium as the earliest manifestation of cardiac distress must not be forgotten. Too often the significance of this symptom is overlooked, and the patient is treated for flatulent dyspepsia. This point is well illustrated in the cases described. If the effort which has caused the pain be persisted in the pain usually spreads upwards and may alter in character; but that the initial epigastric pain is cardiac I am convinced from careful investigation in a number of instances." *The Lancet*, May 6, 1922. (It is really astonishing to note how frequently physicians of more than

average experience and ability commit the above diagnostic error. This epigastric pain of impending cardiac disaster may occur in diphtheria, and is almost certainly the harbinger of death. Symptomatically, the gastric relationship is clear until the entire history of the case and the physical examination reveals its true nature. (C. B.)

**PREVENTION OF SIMPLE GOITER IN MAN.**—Kimball presents a most interesting study based upon his experience with over 7,000 school children in a moderately goitrous district. He shows that the administration of small quantities of iodine is capable of lessening the prevalence of the disease, as it also is in lessening the size of goiter when once it has developed. His method of procedure is very simple. Twice each year, the patients were given 15 grains of sodium iodide divided into daily doses of approximately 2 grains. Klinger, of Zurich, Switzerland, working in a district where virtually 100 per cent. of the school children have goiter, confirms the experience of Kimball in Akron, Ohio. The experience in the latter locality was so favorable that the practice of iodine medication as a prophylactic measure has been extended by invitation of the school boards to Kent and Ravenna, both in Ohio.—*American Journal of the Medical Sciences*, May, 1922.

**THE SIGNIFICANCE OF THE INFLUENZA BACILLUS.**—Bloomfield remarks that there are two main problems in regard to the influenza bacillus: (1) Is it the cause of influenza; and (2) if not what relation does it have to the disease and what is its general significance? He settles the first of these questions in the negative, and then proceeds to discuss the second after a thorough study of literature and laboratory investigations. He reviews the ability of a number of organisms, pathogenic and otherwise as to their adaptability to growth on mucous membranes in health, disease and environment. He then concludes: The influenza bacilli present by far the most picturesque example of such changes in adaptation. The normal state of affairs in regard to the adaptation of these organisms seems to be that they show a widespread association with chronic focal infections in the respiratory tract. There is no evidence that they have more than a moderate and partial degree of adaptation to free growth on normal mucous membranes. A variety of acute infections, however, alter the soil in such a way that influenza bacilli flare up as it were and temporarily become adapted to widespread growth in the affected individuals. This has been shown to be the case in scarlet fever, diphtheria, varicella, and measles. In the latter in particular the observations are of importance. Influenza bacilli were found in 79 per cent. of the cases during the eruptive stage; in 24 per cent. ten to fourteen days after the eruption; in 20 per cent. twenty to twenty-five days after the eruption, and in no cases forty days after eruption. In these diseases, therefore the adaptation is but temporary, and apparently not of a degree high enough to allow growth to extend generally to the mucous membranes of healthy people.

It is of interest that the mild epidemic gripe and the common cold are relatively inadequate to produce such marked alterations in adaptation. Epidemic influenza on the other hand, produces this effect to a maximal degree. The result was, as has been pointed out, not only an almost uniform incidence in cases of this disease, but in the normal population as well.

This change persisted for at least two years after the epidemic, but now, three years after the epidemic, conditions, as indicated by figures, seem to have returned to the normal average. In summary then we have in the case of the influenza bacillus group, organisms which show a marked variation at various times in their adaptation to growth on human mucous membranes. A variety of altered conditions, especially infectious diseases, may produce the change, but epidemic influenza does so to an extreme degree.—*Johns Hopkins Hospital Bulletin*, May, 1922.

**SYPHILITIC DYSPEPSIA.**—Pathault draws attention to the frequency of mild intestinal symptoms due to syphilis. Whilst gummata and syphilitic ulcerations of the stomach are relatively rare, dyspepsia associated with hyperacidity is a common manifestation of syphilis and rapidly amenable to antisyphilitic treatment. This hyperchlorhydria may be present at any stage of syphilis, and if untreated lead to grave consequences. Therefore the possibility of such symptoms being due to syphilis should be considered early by the physician, who despite the denial of any infection and the absence of any of the classical symptoms of syphilis, may be assisted in his diagnosis by an inquiry into the family history with particular reference to those accidents imputable to syphilitic disease. The coexistence of intractable and persistent headache is a suggestive sign, as is also the fact that the symptoms show no disposition to yield to gastric treatment. In carrying out a strenuous course of anti-syphilitic treatment in such cases, the physician not only removes the dyspepsia, but also cures the syphilis and prevents the more serious conditions which would have followed—namely chronic gastritis and ulceration of the stomach.—*Epitome of Current Medical Literature*, April 22, 1922.

**A STUDY OF SIXTY-FIVE CASES SEEKING RELIEF AFTER SHORT CIRCUITING.**—Spriggs analyzes 65 cases of gastro-enteric diseases in which anastomotic operations were performed and had failed to give the desired curative or palliative results. As a result of his study he presents the following conclusions: 1. About one-half of the cases who sought relief after gastro-enterostomy recovered from their symptoms or improved greatly after a lapse of time and suitable medical treatment. 2. In most of the remainder a detailed investigation showed abnormalities which are capable of relief by a further operation. 3. The conditions which call for a second operation are the persistent failure of medical treatment and inability of the patient to live a normal life; particularly if it can be demonstrated that bile is regularly in the stomach, or that the stoma is not in the lowest part causing accumulation of food between the stoma and the pylorus, or that the jejunal loops are not normal in appearance, or that there is dilatation of the duodenum and regurgitation of bile; or if there is evidence of ulceration in the neighborhood of the stoma, or of active ulceration of the stomach or duodenum. 4. Except for structural disease, short-circuiting operations upon the colon should not be performed unless (i) suitable and persistent medical treatment has failed; and (ij) sound scientific reasons can be put forward for believing the operation will benefit the patient. 5. In all cases of chronic alimentary disease treatment, and especially operative treatment should not be undertaken until the case has been investigated as thoroughly as the circumstances will permit.—*The Lancet*, April 15, 1922.

**SYPHILIS OF THE LUNGS.**—Hazen, in the course of a lengthy and systematic article on practical points concerning syphilis, observes that syphilitic affections of the lungs continue to remain a source of dispute among clinicians and pathologists; the former claiming them fairly common, while the latter regard the invasion of the lungs by syphilis as rare.

Clinically four types are described. The latent may be commoner than is usually taught. The patients may be well nourished and show no signs of pulmonary trouble, or they may show indications that are diagnosed as pulmonary tuberculosis of early type. Usually there is some loss of weight, some cough with expectoration, and occasionally night sweats and fever.

A second type of syphilis is where there is a definite local cavity formation due to the ulceration of a gumma into the bronchi. These cases usually resemble tuberculosis very closely.

The third group is the so-called syphilitic phthisis cases. In this there is a progressive fibrocaseous course that cannot be distinguished clinically from tuberculosis.

Still a fourth type is the fibroid, which is clinically indistinguishable from fibrosis due to any cause.—*American Journal of Syphilis*, Vol. VI, No. 2.

**BED REST IN STOMACH AFFECTIONS.**—LeNoir declares that few realize the advantages of staying in bed during the treatment for severe dyspepsia and other non-febrile stomach disturbances. The functioning of the gastric apparatus is much facilitated by the reclining position; the viscera are inclined to sag in the erect attitude, and as they sag, they become kinked, the colon in particular, and they drag on the nerves. Bed rest also does away with the weight of the colon. The radiation of heat is minimal and less calories are required. Digestion can proceed unhampered while even the mildest exercise after eating may check or suspend digestion. In bed the vegetative nervous system and the sense escape numerous causes of irritation. Bed rest appears to be especially valuable in neuroses of the stomach, dyspepsia with emaciation, and gastric disturbances of reflex origin.—*Paris Medical*, Vol. 12, No. 13.

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## PEDIATRICS

Conducted by C. S. RAUE, M.D.

**NEWER ASPECTS OF THE RICKETS PROBLEM.**—Hess. In the course of the last few years the status of rickets has changed—interest has become acute and advance in our knowledge promises to be greater during this decade than throughout the preceding 250 years. The present may be said to constitute a new epoch in the history of rickets. This has come about, primarily, through an increased interest in nutrition and nutritional disorders, and as a logical sequel to the investigations of the vitamins and the so-called deficiency disorders. The analogy between rickets and scurvy, and the inclusion of the former among the avitamin disorders, naturally focused attention on it.

A far broader interest in rickets has been stimulated by the realization that hygiene plays an important role in its causation. It has been clearly demonstrated that rickets can be prevented or cured by means of

light rays—either the artificial rays of the mercury vapor quartz lamp, or by sunlight.

Five years ago, in conjunction with Unger, Hess began a clinical study of rickets. For the last three years they have been observing the occurrence of rickets among the infants of a large child-caring institution. The babies in this home have been fed with various standard milk formulas, composed of raw or pasteurized fluid milk, dried milk, condensed milk, etc.; a few received human milk. Rickets has occurred on every one of these diets—generally in a mild form—in spite of the fact that the general hygienic conditions are exceptionally good. By means of detailed physical examinations, combined with routine roentgenograms of the epiphyses at the wrists, they have been able to note the earliest beginnings of rickets, to correlate its incidence with the diet, and to appraise the relative significance of various signs of this disorder and their response to treatment. In general, it may be stated that less rickets has been found to develop among these infants than among those attending the outpatient departments in New York City.

Although the roentgen-ray is important in the diagnosis of rickets, it has important limitations. In noting the effect of treatment, for example of cod liver oil, or of sunlight, it is a most delicate and prompt indicator. But in furnishing information as to the earliest beginnings of rickets, the roentgen-ray was found to lag behind clinical examination. The rachitic rosary frequently precedes roentgenographic changes in the ulna or the radius. By the time the X-ray demonstrates rachitic changes at the epiphyses, a well-defined rachitic rosary is almost invariably present. In discussing rickets, as in scurvy, it should constantly be borne in mind that the majority of cases are latent and not discernible by our diagnostic methods.

One of the central points of interest at present is whether the fat-soluble vitamin should be regarded as the antirachitic vitamin, whether rickets should be considered a deficiency disease similar to scurvy and beriberi. As is well known, this vitamin is present in abundance in animal fats, such as cream, butter and eggs, as well as in the leafy vegetables. Hess and Unger attempted to show that babies, which had been carefully observed, developed rickets despite the fact that they received an abundance of milk, whereas others which received a diet low in fat-soluble vitamin did not develop signs of rickets. They have pointed out also that metabolism studies did not favor the interpretation that rickets was due to a lack of milk, which is rich in this vitamin, for they repeatedly showed that negative calcium balances resulted when infants were given large amounts of whole milk. They, therefore, came to the conclusion that the fat-soluble vitamin is not the dominating factor in the development of rickets.

As regards the metabolism in infantile rickets, the greatest attention until recently has been focused on the calcium ion and phosphorus, with but few exceptions, has been relegated to a secondary position. About a year ago it was shown independently by two groups of investigators that rickets could be brought about without fail in rats by a diet adequate in calcium but deficient in phosphorus. Viewing these experiments in the light of clinical experience, it is evident that they cannot indicate—nor have they been so interpreted—that the development of rickets in infants

is merely dependent on an inadequate phosphorus supply. Unfortunately, data as to the phosphorus requirements of infants are inadequate to determine this question. It is evident that the problem in infantile rickets is not so simple as might appear from investigations on rat rickets, in which the diet is reduced to simple components. It should be remembered that, in spite of years of clinical observation, no diet has been noted which leads to rickets in infants.

For centuries, physicians have discussed whether faulty diet or hygiene is the etiologic factor in rickets. Today, the influence of hygiene is firmly established, and, although comprising possibly several elements, has been shown to be identified largely with an adequate supply of sunlight. For the past year the author has employed direct sunlight as a therapeutic measure, and has found it most efficacious. The rays must impinge directly on the skin, and the curative effect has been demonstrated by clinical examination, by roentgenograms of the epiphyses, and by an increase in the inorganic phosphate of the blood. It is a systemic measure and not a local one, affecting tissues which have not been exposed to the rays. Investigators have shown that when rats are fed a rickets-producing diet they can be regularly prevented from developing this disorder by short and frequent exposures to the sun's rays.

In the experience of the authors, three quarters of the cases of rickets develop during the first half of the calendar year, and but one quarter during the second half, and that almost all of the latter are observed in late November and in December. This seasonal factor is climatic, not dietetic, and due almost entirely to a lack of sunlight. The marked incidence of rickets in the early spring must be interpreted as indicating that during the winter the light factor ceased to perform its share of the protective work.

An important factor affecting the potency of light is the intensity of pigmentation of the skin, hence the well recognized susceptibility of negro infants to rickets. Some years ago, in the course of a study of the prophylactic value of cod liver oil in a negro district, it was found that a majority of the breast fed infants and almost all the bottle fed infants showed clinical signs of rickets. The main distinction is—as demonstrated by animal experiment—that colored infants require a greater degree of the effective light rays than do white infants. That they possess no racial predisposition to rickets is evidenced by their freedom from this disorder in their native homes in the West Indies. The darkness of the skin is, no doubt, a predisposing factor, also, in the susceptibility of the southern Italian, the Syrian and other southern races. How great the importance of light is cannot be definitely stated for it differs according to diet, to the rate of growth and to the degree of pigmentation of the skin. It is evident, therefore, that its relative importance must vary among different races, in different countries according to the dietary, in cities according to environmental conditions, and in different families, according to the domestic regimen.—*Journal of the American Medical Association*, April 22, 1922.

**SPASMODIC COUGH FROM PRESSURE OF ENLARGED HILUM GLANDS.**—Clark, of Atlanta, Ga., reports a case of a seven-year-old boy suffering from a spasmodic, brassy, explosive cough for four years. He had been treated



medically during this time and the tonsils and adenoids removed without relief. Roentgenograms revealed several large glands near the bifurcation of the trachea in the right and left hilum. On account of the possibility that they were producing pressure on the bronchi sufficient to cause the cough, four filtered roentgen-ray treatments were given. At the end of four weeks the cough had completely disappeared, with no recurrence to the present date, six months after dismissal.—*Journal Amer. Med. Assn.*, April 15, 1922.

**TREATMENT OF PYLOROSPASM IN INFANTS.**—Grulee states that congenital pyloric stenosis and pylorospasm are distinct clinical entities with similarity in the clinical picture. It may be said that pylorospasm is several times as frequently encountered as pyloric stenosis. It also is often a very serious and even fatal disease and its greater frequency, therefore, demands that it should receive as much attention early as does congenital pyloric stenosis. Grulee believes that thick cereal feeding is not the ideal treatment of pylorospasm because of the difficulty in giving the thickened food and because of the large proportion and actual quality of starch in the mixture which makes it a food which is not suitable for young infants. Children so fed may show severe febrile reaction, sometimes followed by symptoms of shock. The author advocates the following method of treatment: Atropine is administered hypodermically to the quantity of from 1/1000 to 1/500 grain, 15 minutes before each feeding. Before the food is given, the stomach is carefully washed until the washings return clear. When the pylorospasm develops in a breast fed baby, the child is allowed to nurse after the stomach washings. In the breast fed the results have not been as striking as in those artificially fed. The average case will require from two to three weeks' treatment when the vomiting ceases entirely.—*Journal Amer. Med. Assocn.*, April 22, 1922.

Haas, of New York, who first called attention to the value of atropine in pylorospasm, in a letter appearing in the *Journal* of May 6, 1922, has this to say regarding Grulee's article: "Lavage is not required in any of the cases if atropine is used in sufficient doses, and shortcomings in hygiene and diet are corrected. The atropine need be used hypodermically only in the severest cases; otherwise, the drug administered in the feeding is sufficient. That pyloric stenosis is uncommon is beyond dispute; that it is a condition separate from pylorospasm is a debatable question. The strictures placed upon thick gruel feedings, however well founded, can hardly nullify the satisfactory clinical experience with this method of treatment."

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#### DERMATOLOGY.

Conducted by RALPH BERNSTEIN, M.D., F.A.C.P.

**COMMON ERRORS REGARDING SKIN DISEASES.**—M. B. Hutchins states that probably the most common error lies in the belief that skin diseases are "blood" diseases. The source of such opinion is largely in patent medicine advertising and mouth to ear dissemination. An error still present in the minds of some medical men and of patients also is that skin diseases are due to uric acid. There is absolutely no basis of proof for the conclusion or statement that uric acid has any influence in the production of

a skin disease. The general condition should be improved by treatment as an aid in cure, just as would be the plan in treatment of other diseased organs, but there is no specific internal treatment for skin diseases. Often patients speak of certain eruptive conditions as "indigestion." It is true that products of imperfect digestion or metabolism may react to produce skin diseases of certain limited kinds, or at least induce or facilitate both difficulty of cure and relapses. Naturally metabolic toxemias and anaphylactic states have not yet become a part of lay medicine. No more dangerous fallacy exists than is present in the belief that a lesion or growth cannot be cancer because it causes no pain. A baseless error, so far as anatomy or physiology shows, is that nevi of various forms, congenital in type, are "birthmarks" or "mother-marks." A fallacious conclusion that is not uncommon is the elimination of syphilis because of a negative reaction in the presence of definite syphilitic skin lesions.—*J. M. A., Georgia, Feb., 1922.*

**DO WE NEGLECT THE INDUSTRIAL SKIN SUFFERER?**—According to R. Prosser White, while cutaneous troubles rarely cause permanent ill-health or mutilation, all who have an intimate knowledge of the subject feel that such an event can and ought to be made impossible. It is extraordinary how lightly employers and employees treat mild cases of accidents and skin diseases. The public should remember that correct dressing may save while an incorrect one may imperil life. Unfortunately industrial dermatoses are not as easily recognized as are well-known skin diseases. Industrial physicians should, therefore, make a study of the industries in their districts that are likely to cause dermatoses, otherwise their diagnoses will be doubtful. An error may at any time entail a wrong or hardship upon either the employer or the employee. If these industries are improperly carried on or handled, almost every trade and every chemical may injuriously affect the outer covering of some part of the body. The prevention and alleviation of these disturbances can be obtained only by the interested cooperation and instruction of the management, the engineer, the chemist, the workman and the doctor. Without their united efforts many distressing and serious injuries will constantly arise.—*J. State Med., London, Feb., 1922.*

**CASE OF ECZEMA ASSOCIATED WITH ASTHMA.**—H. MacCormac reports the case of a patient, aged 42, who developed an eruption on the hands, arms and neck, while in the army, beginning in 1903 and recurring until 1910, when he went into the reserve, whereupon the eruption entirely ceased. In 1914 he rejoined the army and the skin disease reappeared; he also developed asthma. The skin disease, therefore, coincided with his contact with horses. A cutireaction was obtained to dog and horse protein. Five injections, beginning with 0.2 minim and working up to 5 minims of horse serum, have not improved the condition. The association of the two conditions may be accidental, and the dermatitis may not be a consequence of "horse sensitiveness." F. Parker Weber suggests that sensitivity to horse hair and to skin secretions of the horse are different phenomena.—*Proc. Roy. Soc. Med., Feb., 1922.*

**CASE OF TUBERCULOSIS OF THE SKIN FOLLOWING A CAT BITE.**—In reporting a case of tuberculosis of the skin following a cat bite, Holdin Davis makes the following comment: Tuberculosis is somewhat rare in

cats. It affects the intestinal tract most frequently and the lesions are richer in tubercle bacilli than are those in man. In the case studied, a cat bite on the back of the hand had not healed properly after ten months. Nodules of an apple jelly appearance marked the imprint of the teeth. Clinical diagnosis of tuberculosis was confirmed by microscopic findings.—*Roy. Soc. Med.*, London, Jan., 1922.

**EXPERIMENTAL INVESTIGATIONS OF THE CONTAGIOUSNESS OF LUPUS VULGARIS.**—According to Konrad Burchardi, Judassohn does not consider lupus to be a contagious form of tuberculosis, contrary to Stern, who inoculated guinea-pigs with a mixture of secretions, tissues and common salt, and found, in 70 per cent. of all animals, fully virulent tubercle bacteria. This he considered an undeniable proof of the great contagiousness of the skin affected by lupus. Burchardi controlled Stern's results and came to the following conclusions: (1) Inoculation of guinea-pigs with pus taken from ulcerated skin lupus did not produce tuberculosis. (2) Scraped off tissue of ulcerated lupus produced tuberculosis in 90 per cent. of the guinea-pigs. (3) The same applies to ulcerated lupus of the mucous membrane of the nose. (4) In Stern's experiments the contagion was brought about by the particles of tissue used. (5) As the tissues affected by lupus are of hardly any importance as far as the transmission of tuberculosis among human beings is concerned, the writer's experiments confirm the practical experience that the danger of transmission of ulcerated lupus is very slight.—*Deutsch. Med. Wochenschr.*, Berlin, Feb., 1922.

## SURGERY

Conducted by J. D. ELLIOTT, M.D.

**TRAUMATIC SYNOVITIS OF THE KNEE JOINT AND ITS TREATMENT.**—Lt. Col. Metcalfe's experience in the army has given him great respect for trauma of the knee joint. His results with the ordinary treatment by rest, pressure and antiphlogistics were so unsatisfactory in regard to permanent cure that in 1916 he decided to aspirate the joint and give it complete rest by extension. He has found that aspiration within a few hours of the accident gives practically pure blood, after six days a bloody serum and a straw colored serum after ten days. He believes that fibrinous masses remain from the coagulation of the blood and act as foreign bodies with a resultant weakened and partially crippled joint. With tapping and extension a permanent cure is obtained within two weeks, usually eleven days, and the patient is allowed to walk upon the limb at the end of nine or ten days. He advises waiting for forty-eight hours after the injury before tapping the joint in order to allow the bleeding vessels to become thrombosed, otherwise the blood may re-accumulate.—*Surg. Gyn. and Obstet.*, February, 1922.

**THE DIAGNOSIS OF TUMORS OF THE CAUDA EQUINA, CONUS AND EPICONUS MEDULLARIS: A REPORT OF NINE CASES.**—Parker states that tumors of the cauda equina, conus and epiconus are not rare and of thirty-three spinal tumors operated since 1916, eight were in one of these areas. The course of the disease in this series was relatively long, five months to eight years, and the symptoms were characterized, on the whole, by pain

and weakness of the lower extremities and perianal or saddle anesthesia, with loss of control of the bladder and rectum. In some cases the pain preceded the other signs for many months; while it might be intermittent at first it became constant before the end. Movement often relieved it and a sitting position was the most comfortable. Sphincteric disturbance was sometimes absent, even though other signs were well marked. Spinal puncture was a valuable aid, primarily to exclude other diseases, but it also gave a hint of the condition of the dural canal. While diagnosis of tumor somewhere in the lowest segments of the cord is comparatively simple, its exact localization is often impossible or extremely difficult, and a surprising degree of involvement of structures is often present with few signs and symptoms to correspond.—*Amer. Journ. of the Med. Sciences*, March, 1922.

**CONGENITAL OCCLUSIONS OF THE INTESTINES.**—Davis and Poynter presented a case in which there were multiple occlusions of the small intestine. They have made a careful study of the literature of this condition and have succeeded in collecting 392 cases. The difficulty in diagnosis rests upon locating the site of the lesion, but this is usually impossible, so that the ordinary diagnosis is bowel obstruction due to congenital occlusion.

The condition is relatively rare, it occurs once in about 20,000 infants, and is multiple in about 15 per cent. The prognosis is bad. Operation should be undertaken immediately following the diagnosis, provided, of course, that the infant is not suffering from some other condition which contra-indicates treatment for atresia. The anesthetic to be employed is manifestly procaine infiltration. Spinal anesthesia is not suitable nor is paravertebral justifiable, while ether, either by inhalation or by rectum, is distinctly contra-indicated. The incision must be long enough to discover all occlusions, for 15 per cent. of these cases are multiple. The operation to be performed is an entero-anastomosis either as a lateral or an atypical end-to-end union. Undilatable and undeveloped distal bowel and widely scattered multiple occlusions are contra-indications to operation.

There is no cause for all of the cases. The various etiological factors may be summarized under the following heads: Developmental anomalies, developmental accidents, foetal diseases.—*Surg. Gym. and Obstet.*, January, 1922.

**MULTIPLE INTESTINAL RESECTIONS FOR GUNSHOT WOUNDS.**—Colph has reviewed the reports upon gunshot wounds of the intestine and believes that immediate operation rather than conservative treatment is indicated in all perforating gunshot wounds of the abdomen, especially in civilian practice. That while suture is the operation of choice, if the perforations are many, resection is preferred. And if these perforations are grouped but widely scattered, not only are multiple resections practical but they are definitely indicated. Finally, the mortality of multiple intestinal resections is probably not greater than those of single resections.—*The Military Surgeon*, February, 1922.

**TUBERCULOUS ABSCESSSES OF THE CHEST WALL.**—Auchincloss presents nine cases of this condition. He states that these abscesses are frequent enough to be of importance to the general surgeon, yet rare enough for many surgeons not to have had enough cases for study as to their patho-

genesis and treatment. There is a widespread opinion that such cases are, in the majority of instances, due to a "tuberculous rib" as the distributing or "primary" focus. The cases studied would indicate this not to be the case. The ribs did not show tuberculosis except after pieces of them had been removed and continuation of the tuberculous infection had occurred with secondary infection. The distributing focus for the abscess seems to be from those structures immediately beneath the bony, cartilaginous or muscular chest wall. The lungs, the pleura and the mediastinal lymphatics seem preëminently responsible. The abscess is frequently deep as well as superficial to the chest wall; e.g., the "collar-button" or "dumb-bell" abscess. They occur chiefly on the antero-lateral aspects of the chest wall rather than posteriorly. The associated tuberculous lesions are varied in number and importance and may or may not be more important than the abscess. An extraordinarily large amount of calcium deposit may be present and x-ray plates showing calcium are rather characteristic. The story of influenza or an acute pulmonary condition may determine the onset of the abscess formation. A complete excision of the tuberculous focus, leaving vascular, well-nourished walls to come together, with filling in dead spaces by muscle and pressure bandage and primary closure of wound is the treatment, though this may have to be modified by an associated lesion. —*Annals of Surgery*, April, 1922.

#### OPHTHALMOLOGY.

Conducted by WILLIAM M. HILLEGAS, M.D.

OCULAR FACTORS IN HEADACHE.—J. A. Kearney, in the *N. Y. Medical Journal*, remarks that the symptom for which an ophthalmologist is most frequently consulted is headache. The ocular factor in all forms of headache is greater than is generally supposed, probably not less than 40 per cent., while of all bilateral frontal headaches, 75 per cent. are due to eyestrain. Headaches due to eyestrain are invariably bilateral; the hemi-cranias are rarely if ever caused by eyestrain.

In the study of headache, the site, the character of the pain or distress, the time of day of its occurrence and greatest severity, the character and amount of employment of the eyes, and the state of the general health are the important determinations for the ophthalmologist.

The site of the headache, when eyestrain is responsible, is often misleading as to the character of the existing error of refraction. In a general way, a frontal or supraorbital headache indicates a hyperopic error; occipital, an imbalance of the extrinsic ocular muscles, and temporal, an astigmatic error. Variations from these rules are not infrequent however.

The character of headaches due to eyestrain is usually dull, sometimes boring on excessive use of the eyes, seldom knifelike. In patients who use their eyes continually, especially for close work, headache due to eyestrain is severest toward the end of the day, and this is especially so when due to muscle imbalance. Headaches due to an eyestrain which has existed for a long time are often present immediately after arising even before any close work is attempted, but these headaches must be differentiated from those due to disease of the nasal accessory sinuses, which can not always be ruled out just because there is not a purulent nasal discharge.

At a time when a patient is much reduced in health, or is convalescent from a long standing or a febrile disease or a major surgical operation, asthenopic symptoms, the result of errors of refraction, are apt to become manifest, and an examination under a mydriatic is advisable, even if the patient is already wearing corrective lenses.

**EARLY CATARACT.**—Colonel Henry Smith, in the *Arch. of Ophthalm.*, Jan., 1922, says that our knowledge of the causation of early cataract is hardly even in the stage of theory. Not one of the few theories advanced will stand the test of facts. We know but little of the nutrition of the crystalline lens or of the elimination of its waste in health. He claims to have been the first to advance the observation that the earliest symptom of senile cataract is failing distant vision. The patient's near vision with spectacles is good for ordinary purposes when his distant vision is reduced to even less than one-half. The structures of the retina can be made out with ease in this early stage, but at the periphery of the lens there is occasionally the appearance as of particles of black sand. He feels that if the general practitioner can be educated to recognize that failing distant vision in people over forty is the first sign of cataract and that it is his duty then to send the patient to an ophthalmologist for investigation, that operations for senile cataract will in the future become less frequently necessary.

**OPHTHALMIA NEONATORUM—PRENATAL CLINICS.**—An editorial in the *British Journal of Ophthalm.*, calls attention to the fact that the methods employed for getting immediate and adequate treatment for ophthalmia neonatorum are still very unsatisfactory, and suggests that a special form be issued for physicians and midwives, to be filled in for each case in order that we may check up as to what damage is done by the disease and to what extent the knowledge of it is best to be utilized or ignored.

The prevention of this disease can only be secured by the treatment of the vaginal disease of the expectant mother; this is the one and only certain means of prevention, and it is within our power to accomplish this desirable end. (In this country, especially in Penna., most prenatal clinics have instituted a routine Wasserman and vaginal smear in each patient. In Penna. any midwife failing to report to her inspector within 24 hours, any conjunctival discharge in the infant's eyes will have her certificate revoked.)

Arrangements must be made so that diagnosis and treatment can be made as swiftly as the fire brigade can be brought in when there is an outbreak of fire in our homes. It is no easy matter, however, to get hold of the expectant mothers, but will doubtless become easier as the work of the antenatal clinics grows.

**TRACHOMA—DIAGNOSIS.**—Ellett says that on routine examination in a child who has no subjective ocular symptoms, or but few, the condition of granulations on the conjunctiva is more apt to be folliculosis. If the granules are in the lower lid, and there are but few other cases, and these in children of the same age, it is still apt to be folliculosis. Subjective symptoms, granulations on the upper lid and upper fornix, the presence of a similar condition in older members of the family or community, especially the scars indicative of a late stage of trachoma in the adults, require that the case be viewed with suspicion, and withdrawal from school and the effects of the treatment carefully watched.—*Ophthalm. Literature*, March, 1922.

## UROLOGY

Conducted by LEON T. ASHCRAFT, M.D.

**THE VERUMONTANUM: A CLINICAL STUDY.**—The author gives a detailed description of the verumontanum from embryological, anatomical and functional points of view. He considers it the most important portion of the posterior urethra. All infections of the posterior portion of the urethra affect the verumontanum more or less, and in many cases the verumontanum is itself the site of infection, such infection being regarded as a distinct pathologic entity known as "verumontanitis."

The verumontanum is to the seminal vesicles what the tongue is to the upper portion of the digestive tract. Formerly the prostate gland was considered the focus responsible for chronic urethritis, but recently this belief has lost some ground because chronic prostatitis is not quite as frequent as in former years, and in the majority of cases treated by massage, a careful endoscopic exploration reveals the lesion in the verumontanum.

In all cases of chronic posterior urethritis the prostatic urethra and especially the verumontanum should be carefully examined. As the verumontanum is richly supplied with nerves, infections of this anatomical structure have a decided effect on the entire nervous system. Great difficulties are encountered in the diagnosis of diseases of the verumontanum because of confusing symptoms which often lead to the belief that the seat of the trouble is in neighboring parts, such as the remainder of the posterior urethra, the prostate and the seminal vesicles. Hence the necessity for careful endoscopic examination.

The verumontanum may give rise to urinary symptoms. The author cites two cases illustrating this fact. In the first, the infection caused such severe pain during micturition and so many symptoms of vesical irritation that he was led to the belief that cystitis was present. Cystoscopic examination revealed an inflamed verumontanum which filled all the posterior urethra and bled very easily. The other case was that of a patient of middle age who for four years had suffered with retention of urine following nervous exertion. Endoscopic examination revealed an enormous verumontanum which obstructed the prostatic urethra.

In discussing the treatment the author advises the local application through the endoscope of a solution of nitrate of silver. Only in very persistent cases should the solution be stronger than a 10 per cent. solution. Tincture of iodine, if used at all, should be diluted and used with care as it causes a strong reaction with hematuria, tenismus, strangury, and even complex retention.

Recently Martin has obtained such satisfactory results with fulguration that he believes this method will eventually supersede all others.

We take the liberty of adding that we thoroughly agree with the statement that chronic urethritis is in too many instances incorrectly attributed to prostatic infection, and that as a result the prostate is man-handled too much. One method of treating verumontanitis of long standing is that described by Rytina some years ago, namely, by shaving off excessive hypertrophied portions by means of a special instrument which he devised.—*Espana med.*, 1911, xii, 3.

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AUGUST, 1922

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## INTRACRANIAL COMPLICATIONS OF MIDDLE EAR SUPPURATION

BY GEORGE W. MACKENZIE, M.D., PHILADELPHIA, PA.

(Read at the Lackawanna County Medical Society Meeting at Scranton, November 29, 1921.)

THE size and importance of the subject assigned to me demands a consideration far greater than it is possible for one to give in a single paper. Accordingly only the most salient features of each complication will be referred to.

Among the complications of middle ear suppuration may be mentioned pachymeningitis externa (extradural abscess), pachymeningitis interna (subdural abscess), circumscribed leptomeningitis, diffuse serous leptomeningitis, diffuse suppurative meningitis, temporosphenoidal abscess (superficial and deep), cerebellar abscess, perisinous abscess, thrombophlebitis of the sigmoid sinus.

The inner ear, or so-called labyrinth, is not in the true sense an intracranial structure, but one that is located between the middle ear and the intracranial structures. For this reason the labyrinth frequently serves as a pathway for the spread of an infection from the middle ear to the cerebellum and the membranes covering it. Diseases of the labyrinth secondary to middle ear suppuration, therefore, occupy an important position in the consideration of the intracranial complications of middle ear suppuration. Any of the complications mentioned above may occur in the course of the acute or chronic form of middle ear suppuration.

It is not so often in the frank cases of middle ear suppuration associated with external evidences of mastoiditis that



complications are prone to develop as in the atypical cases where the symptoms are so mild or obscure as to be overlooked. For instance, there exist cases of fulminating meningitis that develop in the course of acute middle ear suppuration where the middle ear was never suspected as having been involved, by reason of the absence of otorrhoea and perforation of the drumhead. In the cases of this kind witnessed by the writer the infecting organism has generally been found to be the streptococcus mucosa. Pus in the mastoid under pressure may exist without the presence of external swelling. This happens in those cases where the external cortical layer of the mastoid is very thick and unyielding.

In chronic middle ear suppuration the amount of discharge is no certain index of the intensity of the suppurative process within the middle ear and mastoid cavities. Cholesteatoma is a frequent complication of chronic middle ear suppuration, and in its growth it tends to erode the walls of the middle ear spaces in the line of least resistance, which is generally toward the intracranial structures, when sooner or later one or more of the complications mentioned occurs. In chronic middle ear suppuration, with complicating cholesteatoma, there is usually but a slight amount of discharge and occasionally complete cessation of discharge for prolonged periods. It is because of the very mildness of the ear symptoms that the ear is prone to be overlooked as the site of a lesion responsible for a group of intracranial symptoms, when they present themselves.

Concerning the manner of extension of pyogenic infections from the middle ear to the intracranial structures, exclusive of the labyrinthine route, the best information to be had is from Sir Wm. MacEwen, which has since been endorsed by Politzer, Alexander, Panse and Koerner.

Pachymeningitis externa (extradural abscess) is the most frequent form of intracranial complication that may arise in the course of middle ear suppuration, acute or chronic. Pachymeningitis externa may occur in the middle fossa as a complication of acute middle ear suppuration in young children by reason of the presence of a dehiscence in the tegmen tympani due to incomplete closure of the petrosquamosal suture; in older individuals from a molecular disintegration of the thin tegmen tympani or antri. Pachymeningitis externa may occur in the posterior skull fossa by reason of molecular disintegration of

the inner posterior corticalis of the mastoid process. A particularly vulnerable area is that position of the inner corticalis which covers the convexity of the sigmoid sinus, in which case the extra dural abscess is referred to as a perisinous abscess. Pachymeningitis of the middle or posterior fossa may also occur in the course of chronic middle ear suppuration by reason of the resorption of bone from the growth of a cholesteatoma. According to MacEwen, a pachymeningitis externa may occur, too, in the course of an infective thrombosis during the period of disintegration.

In any event a pachymeningitis is associated with granulations which protrude through the pathologically produced bony defect. It sometimes happens that the granulations assume such proportions as to appear in the middle ear cavity and even the external canal as a large red granulation polyp, the forceful removal of which may be followed by serious consequences.

The symptoms of a pachymeningitis are often so slight as to cause practically no discomfort to the patient; the proof of which is the fact that in the vast majority of cases they are discovered at operation without having been previously suspected. On the other hand, cases present themselves in which the symptoms are quite definite and fairly pronounced. They include headache, usually unilateral, localized tenderness elicited by finger percussion, moderate rise of temperature, restlessness and sleeplessness.

In the case of extradural abscess covering the outer sinus wall (perisinous abscess) the symptoms may include in addition to those mentioned above, those suggestive of sinus thrombosis, chill, fever and sweat, at irregular intervals, due to the absorption into the circulation of bacterial toxins, but not the actual bacteria.

The treatment of pachymeningitis consists of a mastoid operation simple if the middle ear suppuration is acute, and more radical if it happens to be chronic, together with thorough exposure of the granulating area and evacuation of the pus when found present. It is unwise to curette the granulations because of the risk of opening up a pathway for deeper invasion. The prognosis is generally very satisfactory under this form of treatment.

Pachymeningitis interna (circumscribed subdural abscess) referred to by MacEwen as ulceration of the brain.

According to the same author, "An abscess may form between the pia mater and the dura, being circumscribed by the adhesion formed between these two membranes. In such cases there is superficial inflammation of the brain and not infrequently this results in brain ulceration, the molecular disintegrating products of which accumulate between the brain and the dura. Under these circumstances the plastic exudation formed on the inner side of the dura softens and disintegrates; the membranes participating in the softening process may become eroded, and even perforated, so that pus may escape on the external surface of the dura, or, in the case of an osseous perforation, through the tegmen tympani."

The symptoms of pachymeningitis interna with so-called ulceration of the brain, are recurrences of severe otalgia and unilateral headache, slight chilliness accompanied with convulsions, mental hebetude, congestion of the optic nerves, sluggish pupillary reflexes, circumscribed percussion tenderness over the site of the lesion. The temperature may reach as high as 103 degrees; occasionally it approaches the normal. The pulse in some cases tends to be high; in others comparatively low. The more active the circumscribing meningitis the higher the temperature and pulse rate tend to be. On the other hand, the larger the abscess and the more confined it is the lower will be the temperature, pulse and respiration. After evacuation of the pus the temperature, pulse and respiration tend to increase appreciably which may be accepted collectively as a favorable sign.

Treatment consists in operating the patient promptly and draining the abscess thoroughly, and for a length of time sufficient to permit of the cavity granulating from the bottom up. The prognosis is usually favorable.

Diffuse serous leptomeningitis of otitic origin, or meningismus, may present any or all of the symptoms and signs of the more dangerous suppurative form, however, less intensely. The one outstanding point of differentiation is the character of the cerebro-spinal fluid findings. In the serous form we find increased pressure of the fluid slightly cloudy with an increase in the mononuclear cell count, but no organism present. The presence of organisms, together with polynuclear cells, places the case in the suppurative class. Because of the marked similarity in the two classes of cases time will be spared in presenting only the suppurative. In the suppurative form of

leptomeningitis there is more evidence of encephalitis than in the serous, which accounts largely for the more profound symptoms. Serous meningitis is due to the presence of bacterial toxins, while suppurative meningitis is due to the presence of actual bacteria, together with their toxins. The tendency of the inflammation to spread is naturally greater where the pathogenic micro-organisms are present than when the toxins of the bacteria only are present. To better understand the symptomatology of meningitis it is well to recall the fact that in the spreading of the inflammation congestion precedes inflammation, so that the symptoms of irritation present themselves before those of destruction; for instance, convulsions occur early to be followed later by paralysis. A closer inquiry into the history of the case as to the order of events will, therefore, afford one fairly accurate data upon which to form an opinion as to the direction and rapidity of the spreading infection. In meningitis, as in brain abscess, to be referred to later, there is an abundance of symptoms depending upon the extent and rapidity of the involvement.

Suppurative meningitis, once established, runs a rapidly fatal course, in spite of the fact that we hear now and then of recoveries resulting from operations aimed at free drainage. Judging from the reported cases of recovery, including two of my own cases, one is forced to believe, in the light of more recent knowledge, that they were cases of serous and not suppurative meningitis.

Leptomeningitis may occur in the course of acute or chronic middle ear suppuration associated or unassociated with other complications. It may occur from the spreading of a complicating erysipelas of the mastoid wound where the labyrinth had been exenterated at the time of operation. It may follow a sinus thrombosis, brain abscess, a labyrinth suppuration. Furthermore, all of these complications may be found in a single case, in which event the meningitis will not run true to form, but will be influenced more or less by the presence of the other complications.

Meningitis of otitic origin generally begins with an aggravation of the symptoms referred to the starting point; for instance, there is an increase in the otalgia, a disturbance in the otorrhea when present; that is, there occurs a sudden increase in the amount of discharge, but more often a decrease; in some few cases there is a complete cessation. There is a rather

rapid rise of temperature which remains high, with a concomitant rise in pulse and respiration rate. Headache develops, which is usually severe. Convulsions occur, starting in one member and spreading to others, to be followed later by paralysis in the same order of development as the convulsions. Likewise delirium precedes coma. Eye symptoms develop early; they comprise spasmodic myosis followed by paralytic mydriasis, beginning more often on the side corresponding to the side from which the infection began. These pupillary symptoms frequently cause unevenness in the size of the pupils. Finally they become widely dilated and inactive to light. In most cases the optic nerve of one or both sides reveal evidences of inflammation, but not the degree of choking that is found in brain abscess or brain tumor. Paresis or paralysis of the extraocular muscles is a very common occurrence—the external rectus more often than the others, because of the long course of the abducens nerve, and thereby its greater exposure. In the nape of the neck rigidity is evident, but more especially when the involvement is in the posterior skull fossa. Spasticity in the muscles of the extremities with increase in the reflexes is common. Cerebral vomiting, hiccough, rapid pulse, all indicate extension of the inflammation to the base of the brain with involvement of the tenth nerve, when the case becomes hopeless.

Brain abscess of the deeper variety may occur from a deeper extension of an extradural abscess, but less commonly than does the superficial variety of brain abscess. The deep abscess that involves the white substance of the brain results more often from extension of infection through the vascular system; extension of a venous thrombosis by a reversed blood stream, the so-called reflex method of propagation or by way of the perivascular lymphatics.

The clinical course of brain abscess of this variety is as follows: First stage, that of invasion, when the symptoms presented by the patient are rather indefinite; headache, a slight chilliness followed by a rise of temperature to 100 or 101, together with the so-called malaise that accompany a moderate grade of infection which subsides in a few days. Then follows the second stage of latency, with moderate headaches and slight fever, with no particular symptoms suggestive of any definite type of intracranial involvement. The latent stage may last an indefinite period, from a few months to

several years. The long-standing case develops a rather thick limiting membrane around the abscess. According to Eagleton, a thick membrane can develop much sooner than we have been wont to believe. According to Ghon a membrane is more prone to form in those cases due to infection from anaerobic bacteria. At all events the more resistant the limiting membrane is the longer the latent period lasts. The third or manifest stage follows the latent. The manifest stage lasts but a few days before the fourth, or terminal stage develops.

During the manifest stage many symptoms arise: (a) Toxic, those due to the absorption of the products of suppuration; (b) general pressure symptoms; (c) focal symptoms—irritative, followed by destructive; (d) distant pressure symptoms; (e) symptoms resulting from complications, meningitis, internal pyocephalus, etc. The last mentioned group belongs more properly to the terminal stage.

One can see at a glance the variety of symptoms possible in the case of brain abscess, depending upon its size and location. To consider them all is quite impossible in a single paper. It is well to remember that the irritative symptoms precede the destructive; for instance, convulsions precede paralysis; disturbances of sensation precede loss of sensation. Take the third nerve nuclear region and pathways; the spreading of a destructive inflammation is preceded by an irritation from congestion referred to above.

Another illustration of this same principle occurs in the case of abscess of the cerebellum. During the brief period of pathologic irritation from congestion there occurs a long excursion, horizontal nystagmus toward the affected side, to be followed later (suppuration stage) by a nystagmus to the opposite side. These and many other focal symptoms comparable with those enumerated above should be studied carefully and in a chronological order, with the object of determining the starting point of the abscess and the direction and rapidity of its extension. One must be on the lookout also for symptoms of suppurative meningitis with the object of determining in advance the prognosis one can promise from an operation.

Of importance in the differentiation of brain abscess from meningitis and sinus thrombosis, it may be recalled that the temperature, pulse and respiration are all lower in brain abscess than in the other complications. Everything is subnormal in brain abscess, so much so that the symptomatol-

ogy of brain abscess is comparable to that of a severe case of lethargic encephalitis, on account of the severe lethargy and even coma, loss of vital strength and body weight. Death follows as the result either of exhaustion or development of complicating suppurative meningitis with internal hydrocephalus.

The subject of brain abscess is so large that it is possible for one merely to outline it in a paper so limited as this.

Thrombophlebitis is one of the more important intracranial complications of middle ear suppuration, acute or chronic. We must not forget that though the sigmoid is the most common sinus affected it is not the only one subject to attack. We have observed elsewhere that perisinous abscess is a rather common form of intracranial complication of middle ear suppuration that presents an unusually favorable prognosis when the sinus is bared at the time of the mastoid operation and the granulations are left alone and not curetted or otherwise disturbed. When the sinus is not uncovered, or where the protective granulations are removed the infection spreads through the coats of the sinus to the lumen with resulting desquamation of the lining endothelium. Blood coagulates on the inner surface of the vessel in an area corresponding to the loss of the endothelium. The clot increases in size so that eventually it may completely occlude the lumen, or it may remain as a parietal one. If the process of disintegration that prompted the formation of the thrombus is not arrested a hemorrhage may occur, but this is extremely rare; more often the thrombus becomes infected, softens and changes from the so-called red to a yellow thrombus, when the products of suppuration are swept into the circulation with the formation of multiple embolic abscesses in all parts of the body, a condition recognized as pyemia. In rare cases of thrombus the process of infection is arrested before the thrombus softens when the red thrombus becomes a fibrous or so-called white thrombus, which may later canalize without pyemia following. The symptomatology of thrombophlebitis, as presented in the average text-book, usually includes that of pyemia. Sinus thrombosis, like all other intracranial complications of otitic origin usually begins with an aggravation of the existing ear symptoms, otalgia and disturbance in the character or amount of ear discharge. This is so common an occurrence that it should serve as a warning, so to speak. We should always be on guard in a case of middle ear discharge, especially of the

chronic form, for the sudden occurrence of any particular deviation in the character of the symptoms referable to the ear.

The moment the patient presents any disquieting symptoms about the ear, such as pain, tenderness, change in the amount of discharge, rise of temperature, we should, with due haste, put the ear in order so as to frustrate impending serious complications. This advice is particularly directed to the general practitioner who sees the case first. In practically all cases, sufficient time is allowed between the warning symptoms and the development of the full fledged complication to allow time for a conservative operation.

The most striking symptom of sinus thrombosis is the temperature range, which is ordinarily quite characteristic in its fluctuations. There is a chill followed by a rise of temperature to 103 or higher, followed by a profuse sweat and drop in temperature. The temperature fluctuations compare somewhat with those of malarial fever; however, in thrombosis the fluctuations are less regular. There may be two or more rises in a single day, a thing that can happen in malaria only when there are multiple infections at different intervals, an occurrence which is exceedingly rare.

It is quite needless to add that a case of sinus thrombosis calls for prompt operative interference, as do all the other complications thus far referred to.

Labyrinth suppuration, or abscess of the internal ear, has been included among the intracranial complications of middle ear suppuration, not so much because of its location as on account of it serving as a stepping stone, so to speak, to the intracranial structures, particularly those of the posterior skull fossa. In the inner ear there exists pre-formed routes for the spreading of infection inward—the aqueductus vestibuli, the aqueductus cochleae and the internal auditory canal. It is possible, too, for infection to spread by way of the fallopian canal to the internal auditory canal and intracranial structures, but this is an extralabyrinthine route and should be so considered.

Before infection can pass from the middle ear to the intracranial structures by way of the labyrinth it is necessary for the labyrinth to become involved in the same process, and this means a labyrinthine suppuration. It, therefore, behooves us to familiarize ourselves with the symptomatology of inner ear suppuration.



The symptoms and signs of inner ear suppuration are so characteristic that once familiar with them the condition should be readily recognized thereafter. They are as follows: (1) Sudden and complete loss of hearing function to all sounds on the affected side; (2) Intense vertigo that lasts for several days without interruption, to be followed by a gradual lessening of the vertigo; it may, however, last for a month or more, and is provoked by sudden movements of the head; (3) Disturbance of equilibrium that puts the patient to bed for several days. The equilibrium disturbance is characteristic in that the patient feels the subjective sensation of falling in the frontal plane *away* from the affected side; however, he actually falls toward the diseased side. This falling is referred to as (4) Reaction falling; (5) Spontaneous bilateral rotary nystagmus toward the unaffected side; (6) Absence of response to the caloric test on the affected side; (7) Definitely diminished after-turning nystagmus toward both sides, but especially toward the affected side; (8) Diminished but positive electrical reaction on the affected side. Diminished because of destruction of the end organ in the inner ear; positive because of an intact eighth nerve.

It is essential for the otologist to be familiar with the complications of middle ear suppuration in greater detail than the author has outlined in this paper. The differential diagnosis is at times quite difficult largely because intracranial complications rarely occur singly; they tend, rather, to be multiple; for instance, it is not rare to find in a single case the presence of suppuration of the inner ear combined with brain abscess and leptomeningitis. All of which tends to produce a confused picture, the unraveling of which is no small task for the specialist and is quite impossible for the general practitioner.

The internist is justified, therefore, in putting the question, "Of what value is a paper on so technical a subject to me?" The reply to this question is, that the author hopes that a few hints may have been dropped here and there in the course of the paper that might possibly prove of some value to the internist in the future. Lest, however, the writer presumes too much he will offer a few definite suggestions calculated to be of particular value to the internist.

1. Any case of acute middle ear suppuration that does not show marked symptoms of improvement following spon-

taneous rupture of the tympanic membrane suggests the possibility of complications. In other words, any case of middle ear suppuration that evidences pain in the ear, a temperature of 99.6° or more, headaches and general malaise, following a discharge from the ear when these symptoms should have subsided, is a complicated one and demands a consultation with a specialist.

2. Vertigo before or after spontaneous rupture is an indication of complication in the internal ear, usually a congestion, and calls for a conservative operation to ward off more serious involvement (labyrinth suppuration.)

3. Persistent earache with fever, with or without mastoid tenderness, with or without middle ear discharge, is suggestive of a complicated middle ear suppuration.

4. Facial paralysis with impairment of hearing may mean a multiple neuritis involving the seventh and eighth nerves; if associated with earache and fever, it generally means a middle ear suppuration with complications.

5. Sudden complete deafness in the course of middle ear suppuration is an indication of internal ear involvement (labyrinth suppuration.)

6. Excessively foul odor of the discharge, in spite of due cleanliness, indicates the presence of necrosis or a cholesteatoma. It is a danger signal, and demands a radical mastoid operation.

7. Excessively high temperature, 104 or over, especially when it fluctuates rapidly, speaks for an involvement of the sigmoid sinus.

8. Subnormal temperature, pulse and respiration, with stupor, occurring in the course of a middle ear discharge, indicates brain abscess.

9. A sudden change in the character or amount of discharge, *i. e.*, from scant to profuse or vice versa, with headache and fever usually indicates impending intracranial complication.

10. Any involvement of the cranial motor nerves suggests meningitis or brain abscess.

11. Persistent headache in the course of middle ear suppuration is the most universally recognized danger sign.

In view of all this array of symptoms it may be asked: What then may be considered a normally behaving case of middle ear suppuration? The answer to this question is that a normal

acute middle ear suppurative case should cease to have pain following the beginning of aural discharge; furthermore, the temperature should subside to normal and remain so, and the discharge should gradually diminish, and cease altogether after ten days or two weeks.

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### CHEMICAL STUDIES OF SWIMMING POOL WATER\*

ROY W. GOSHORN, B.S.

SWIMMING pools have come into such general use in athletics that there can be no longer any doubt as to their value, as many have been established in the last few years and the number is on the increase. The educational importance has been increasingly emphasized. Many colleges and secondary schools have, as a requirement for graduation, the ability to swim. Their proper sanitation is of the utmost importance; theoretically, the water should be as pure as drinking water.<sup>1</sup> This ideal cannot be attained on account of their contamination, both chemical and bacterial, from body surface and excretory organs. Rules have been laid down governing the swimmers, which rules are similar for all pools: The points usually covered are as follows:

(1) The temperature of the pool must be kept between 70 and 80 degrees F.

(2) No common towels, combs, brushes or drinking cups are permitted.

(3) All towels, suits, etc., provided for use must be sterilized in some manner after each separate use.

(4) All bathers, men and women, must take a preliminary cleansing shower with warm water and soap, washing off soap and emptying bladder before entering the pool.

(5) No diseased or intoxicated person is permitted to use a pool.

(6) All pools are emptied and well scrubbed at (varying) intervals.

(7) Physical examination is required before admission to some pools.

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\*Thesis presented in partial fulfilment of the requirements for degree of Bachelor of Science in the Hahnemann College of Science.

## METHOD OF DISINFECTION

Not only are these rules of importance, but also the process of cleansing and disinfection. Many methods are used, as: Alum filtration, copper sulphate, ultra-violet light, liquid chlorine, hypo-chlorite and ozone. Most of these processes are accompanied by re-circulation by means of pumps.

The relative efficiency of chemicals for disinfection may be expressed as follows:<sup>2</sup>

(1) Calcium hypo-chlorite; high efficiency, not much care necessary in handling.

(2) Chlorine gas; efficiency high, cost low, easily handled.

(3) Electrode (trade name for a chemical consisting, for the most part,  $\text{Na}_2\text{OCl}_2$ ,  $\text{CuSO}_4$ ,  $\text{Cl}_2$ , ozone and  $\text{CaOCl}_2$ ), cost ten times as much as for hypo-chlorite, high efficiency, very easily handled.

(4) Copper sulphate; cost high, efficiency low, stains tiles, causes reduction in transparency of water, is easily handled.

(5) The value of ultra-violet light in swimming pools has not yet been definitely determined.

Very little or no chemical work has been done on this subject, but the literature is abundant from a bacteriological standpoint. Some investigators have studied swimming pools as a focus of infection, while others have sought to render them less dangerous. Rosenau reports the following diseases as acquired by swimming in polluted water: Colon infection, ear, eye, nose, mouth and venereal infections.<sup>3, 4</sup> Skutch reported an epidemic of vulvo vaginitis that spread to 236 girls in a swimming pool at Posen.<sup>5</sup> Cobb<sup>6</sup> reported cases of inflammation of the ear and Fehr<sup>7</sup> and Schultz<sup>8</sup> cases of conjunctivitis from swimming in contaminated water. Rosenau states the hazard may be reduced by enlarging the pool. The larger the pool for a given number of bathers, the less is the degree of pollution.<sup>9</sup>

Certain work by Ravenel was noted only after this thesis had been completed. Ravenel made chemical and bacteriological examination of water in two swimming pools at the University of Wisconsin. The methods followed were those of the American Public Health Association. He found that, during the period following refilling, a small but gradual increase in free ammonia, albuminoid ammonia, nitrites and

total nitrogen was observed. The nitrogen as nitrates remained constant, while the chlorine always increased very slightly. In general, the chemical results showed that the nitrogen constituents were more delicate than was the chlorine. Therefore, the quantity of nitrogenous compounds served best as an index to the sanitary conditions of the pool.<sup>10</sup>

The study presented in this thesis was conducted in order to ascertain from a chemical standpoint the degree of pollution in public swimming pools. It was begun in 1920.

Samples were collected and analyzed according to the standard methods of the American Public Health Association. In addition urea was determined by the urease method of Van Slyke.

### RESULTS OBTAINED

#### POOL I.

The capacity of this pool is approximately 100,000 gallons. It is filled with water drawn from the Philadelphia city main, consisting of filtered and chlorinated water originally pumped from the Schuylkill and Delaware Rivers. The water is circulated through alum filters every twenty-four hours, and is thereby maintained clear. Water is drawn from the bottom of the deep end, one-half of it goes into the sewer, the other half passes through the filter and is then mixed with an equal amount of city water, the mixture discharges into the shallow end of the pool from a pipe about two feet above the surface of the pool. Once every two weeks 400 grams of cupric sulphate are scattered through the pool. At the time of the first test the water had been in the pool five months, and the pool was not emptied during the entire period of tests.

#### POOL I

##### Alum Filtration Method Plus Cupric Sulphate

(Calculated in parts per million. Capacity 100,000 gallons)

#### POOL I

Date	Time	When Analyzed	Free Ammonia	N as Nitrites
11/13/20	12:30 P.M.	12:50 P.M.	.05	.00015
11/20/20	12:30 P.M.	12:50 P.M.	.01	.00013
11/30/20	9:00 A.M.	9:30 A.M.	.08	.000125
12/4/20	12:30 P.M.	12:50 P.M.	.16	.00025
12/11/20	12:30 P.M.	12:40 P.M.	.1	.00075
12/18/20	12:20 P.M.	2:00 P.M.	.06664	.00015
1/8/21	12:10 P.M.	12:30 P.M.	.15	.0005
1/15/21	12:10 P.M.	12:30 P.M.	.0333	.0001
1/29/21	12:10 P.M.	12:30 P.M.	.16	.0005
2/5/21	12:10 P.M.	12:30 P.M.	.05	.00025
4/16/21	8:30 A.M.	8:40 A.M.	.038	.00025
4/23/21	8:30 A.M.	8:40 A.M.	.07	.00015
4/30/21	8:30 A.M.	8:40 A.M.	.1	.0006
5/7/21	8:30 A.M.	8:40 A.M.	.175	.000225
5/14/21	8:30 A.M.	8:40 A.M.	.12	.00025

N as Nitrates	Temp.	N as Urea	No. of People	CuSO <sub>4</sub> added	Chlorine
1.55	24½° C.	.247	1187		
1.6	25° C.	.195	1092		
1.3	26½° C.	.37	1455	CuSO <sub>4</sub> added	
1.45	25½° C.	.4	1532		
1	25½° C.	.549	2111	CuSO <sub>4</sub> added	
1	26° C.	.25		From Inlet	
8	26° C.	.28	2835		
6	24½° C.	.30603	1290	CuSO <sub>4</sub> added	
21	25° C.	.29	2840		
9	25½° C.	.23	1122	CuSO <sub>4</sub> added	
8	25° C.	.189			15
1.6	25½° C.	.256	1275	CuSO <sub>4</sub> added	17
1.0	25° C.	.324	1475	CuSO <sub>4</sub> added	18.5
3	25° C.	.22135	1300		20
6	25½° C.	.254	1607		24

## CONCLUSION

- (A)—(1) Free ammonia increased with the number of bath-  
ers.  
(2) Free ammonia increased more rapidly in warm  
weather than in cold.  
(3) The increase of nitrogen as free ammonia per  
man averaged .000016 parts per million after  
cupric sulphate was added and .000047 parts  
per million prior to the addition of that com-  
pound.
- (B)—(1) The nitrates increased with the number of bath-  
ers.  
(2) The cupric sulphate apparently had very little or  
no effect upon the nitrates.  
(3) The nitrates per man increased by .0261 parts  
per million, regardless of the presence or ab-  
sence of cupric sulphate.
- (C)—(1) Nitrites increased with the number of bathers.  
(2) Nitrites were increased .0000000155 parts per  
million per man when cupric sulphate was used  
and .0000000161 parts per million per man  
when that salt was not used.
- (D)—(1) Urea increased with the number of bathers.  
(2) Urea increased .000219 parts per million per  
man when cupric sulphate was not added, and  
.000152 parts per million when that salt was  
used.
- (E)—(1) Chlorine increased with the number of bathers.  
(2) The treatment with cupric sulphate had very little  
or no effect on the chloride content.  
(3) The chlorine increased .0031 part per million  
per person.

## POOL II.

The capacity of this pool is approximately 60,000 gallons. The alum filtration method is used, requiring five pounds of alum per week. The pool was used Tuesdays and Thursdays by women, who supplied their own bathing suits. It was used by men during the other days of the week.

## POOL II

(Used by Women and Men)

Alum filtration method used. Capacity 60,000 gallons.

## POOL II

Date	Time	When Analyzed	Free Ammonia	N as Nitrites
2/2/21	9:00 A.M.	9:30 A.M.	.2	.000025
2/7/21	9:00 A.M.	9:30 A.M.	.34	.000125
2/14/21	9:00 A.M.	9:30 A.M.	.26	.00015
Empty				
2/15/21	9:00 A.M.	9:30 A.M.	.0135	.000026
Just after being refilled.				
4/13/21	7:30 A.M.	8:00 A.M.	.24	.00013
Empty				
4/20/21	7:30 A.M.	8:00 A.M.	.094	.000065
4/27/21	7:20 A.M.	8:00 A.M.	.066	.00001
Empty				
5/6/21	7:20 A.M.	8:00 A.M.	.11	.00006
5/13/21	7:30 A.M.	8:00 A.M.	.145	.00005

N as Nitrates	Temp.	N as Urea	No. of People	Chlorine
4	26 ° C.	.0424		
8	26 ° C.	.1411	276 Women, 240 Men	
8.5	25½ ° C.	.388	725 Women, 675 Men	9.5
.305	25 ° C.	None	None	
7.3	26 ° C.	.29	620 Women, 530 Men	32
5.6	24½ ° C.	.072	150 Women, 120 Men	23
1.144	25½ ° C.	.1165	55 Women, 40 Men	12
10	25 ° C.	.1631	325 Women, 275 Men	16
10	26 ° C.	.1631	317 Women, 284 Men	20

## CONCLUSION

- (A)—(1) The nitrogen as free ammonia increased .00029 parts per million per person.  
 (2) Same as (A) (1) Pool I.  
 (3) Same as (A) (2) Pool I.
- (B)—(1) The nitrogen as nitrites increased .000000444 parts per million per person.  
 (2) Same as (C) (1) Pool I.
- (C)—(1) The nitrogen as nitrates increased with the number of bathers.  
 (2) The nitrogen as nitrates increased .0102 parts per million per person.
- (D)—(1) The nitrogen as urea increased .00273 parts per million per person.

- (2) The urea increased more rapidly in the case of female bathers than in that of male bathers.
- (E)—(1) The chlorine increased .031 parts per million per person.

### POOL III

The capacity of this pool is approximately 60,000 gallons. The water is not filtered nor are any chemicals used for disinfection. The water was completely changed every Wednesday and Sunday. The samples were taken as the pool was being emptied and refilled. Men and women were allowed to swim together using sterilized bathing suits.

### POOL III

Capacity 60,000 gallons. No filtration. No disinfection

#### POOL III

Date	Time	When Analysed	Free Ammonia	N as Nitrites
2/17/21	9:00 A.M.	9:30 A.M.	.10	.00005
2/18/21	9:00 A.M.	9:30 A.M.	.018	.000025
2/24/21	9:00 A.M.	9:30 A.M.	.13	.000067
2/25/21	9:00 A.M.	9:30 A.M.	.016	.000028
4/14/21	8:40 A.M.	9:00 A.M.	.18	.00005
4/15/21	8:40 A.M.	9:00 A.M.	.017	.000024
4/21/21	8:40 A.M.	9:00 A.M.	.125	.000064
4/22/21	8:40 A.M.	9:00 A.M.	.0175	.000025
4/28/21	8:40 A.M.	9:00 A.M.	.115	.00006
4/29/21	8:40 A.M.	9:00 A.M.	.016	.000024
5/5/21	8:30 A.M.	8:45 A.M.	.116 5	.00004
5/6/21	8:30 A.M.	8:45 A.M.	.017 5	.000025
5/19/21	8:40 A.M.	9:00 A.M.	.12	.00005
5/20/21	8:30 A.M.	8:45 A.M.	.0165	.000023

N as Nitrates	Temp.	N as Urea	No. of People	Chlorine
1.6	25 °C.	.1418	35 Men, 15 Women	
.200	25 °C.	None	None	City water
2.6	25½ °C.	.149	45 Men, 20 Women	
.250	25 °C.	None	None	City water
2.3	25 °C.	.15	40 Men, 42 Women	12.5
.21	25 °C.	None	None	9
2.4	26 °C.	.233	60 Men, 55 Women	13.5
.220	26 °C.	None	None	9
2.4	25½ °C.	.235	65 Men, 50 Women	11.5
.24	26½ °C.	None	None	8
3	26½ °C.	.1165	25 Men, 18 Women	12.5
.25	26 °C.	None	None	10
4.	26 °C.	.3	75 Men, 70 Women	20.6
.24	25½ °C.	None	None	9.5

### CONCLUSION

- (A)—(1) The free ammonia increased .0012 parts per million per person.
- (2) Same as (A) (1) Pool I.
- (3) Same as (A) (2) Pool I.
- (B)—(1) The nitrogen as nitrites increased .000000114 parts per million per person.



- (C)—(1) The nitrogen as nitrites increased .0359 parts per million per person.  
 (2) Same as (B) (1) Pool I.
- (D)—(1) The nitrogen as urea increased on the average .0027 parts per million per person.
- (E)—(1) The chlorine increased .045 parts per million per person.

#### POOL IV

The capacity of this pool is approximately 70,000 gallons. This pool is similar to Pool No. III in having no filtration method and disinfection by means of chemicals is not practiced. The pool was thoroughly scrubbed and refilled every thirteen to eighteen days. It was used by men only. The light was poor, also the ventilation.

#### POOL IV

Capacity 70,000 gallons. No filtration method. No chemicals used

#### POOL IV

Date	Time	When Analysed	Free Ammonia	N as Nitrites
3/3/21	8:00 A.M.	8:30 A.M.	.24	.00030
3/4/21	8:00 A.M.	8:30 A.M.	.017	.000024
4/22/21	8:30 A.M.	8:50 A.M.	.24	.00026
4/23/21	8:30 A.M.	8:50 A.M.	.016	.000023
5/18/21	8:30 A.M.	8:50 A.M.	.275	.000125
5/19/21	8:40 A.M.	9:00 A.M.	.017,5	.000026

N as Nitrates	Temp.	N as Urea	No. of People	Chlorine
3.	26 1/4° C.	.30	600 Men	27
.25	25 1/4° C.	None	None	8.5
2.8	25° C.	.233	450 Men	20
.23	25° C.	None	None	9
4.	26° C.	.3495	600 Men	28
.24	26° C.	None	None	9

#### CONCLUSION

- (A)—(1) The nitrogen as free ammonia increased on the average of .00042 parts per million per person.  
 (2) Same as (A) (1) Pool I.  
 (3) Same as (A) (2) Pool I.

- (B)—(1) The nitrogen as nitrites increased .000000081 parts per million per person.
- (C)—(1) The nitrogen as nitrates increased .0062 parts per million per person
- (2) Same as (B) (1) Pool I.
- (D)—(1) The nitrogen as urea increased on the average .00053 parts per million per person.
- (E)—(1) The chlorine increased on the average .0142 parts per million per person.

### POOL V

The capacity of this pool is approximately 50,000 gallons. The water is continually re-filtered through the alum filter (using six pounds of re-agent per week), then treated with the ultra-violet ray. Each evening one pint of a saturated solution of calcium hypo-chlorite is distributed through the pool. The water is changed every four weeks, and the sides and bottom of the pool are thoroughly scrubbed. Samples were taken from the outlet as the pool was being emptied and refilled, also at intermediate intervals.

This pool was used only by women, who were required to pass a medical and physical examination every six months, and to take a shower bath before entering the pool. Each swimmer wore a bathing suit furnished by herself, also a swimming cap.

### POOL V

Capacity 50,000 Gallons. Used only by women. Hypochlorite used every evening. (One quart liquid per pool)

#### POOL V

Date	Time	When Analysed	Free Ammonia	N as Nitrites
4/16/21 Emptied.	8:00 A.M.	9:00 A.M.	.36	.00030
4/17/21	8:00 A.M.	9:00 A.M.	.016	.000023
4/26/21	8:00 A.M.	9:00 A.M.	.125	.00006
4/30/21	8:00 A.M.	9:00 A.M.	.30	.0001
5/6/21	8:00 A.M.	9:00 A.M.	.16	.00008
emptied.				
5/7/21	8:00 A.M.	9:00 A.M.	.017	.000025
5/13/21	8:00 A.M.	9:00 A.M.	.2	.0001
5/20/21	8:00 A.M.	9:00 A.M.	.350	.00007

N as Nitrates	Temp.	N as Urea	No. of People	Chlorine
4.	25 ° C.	1.16	650 Women	17.7
.24	26 ° C.	None	None	9
2.	25 $\frac{1}{4}$ ° C.	.25	100 Women	13
12.	25 ° C.	.86	550 Women	17.5
7.5	25 ° C.	.95	600 Women	18
.26	26 ° C.	None	None	9.5
10.	25 $\frac{1}{4}$ ° C.	.95	600 Women	17.5
6.	26 ° C.	.64	407 Women	18.5

## CONCLUSION

- (A)—(1) The nitrogen as free ammonia increased on the average .00057 parts per million per person.
- (2) Same as (A) (1) Pool I.
- (3) Same as (A) (2) Pool I.
- (B)—(1) The nitrogen as nitrites increased .00000126 parts per million per person.
- (C)—(1) The nitrogen as nitrates increased .0102 parts per million per person.
- (2) Same as (B) (1) Pool I.
- (D)—(1) The nitrogen as urea increased .001 part per million per person.
- (E)—(1) The chlorine increased .011 parts per million per person.

## SUMMARY

(1) The nitrogen as free ammonia was greater in the pool used exclusively by women. This pool was provided with a filtration system. The nitrogen as free ammonia was greater in the pools used by both sexes than in those used exclusively by men.

(2) The nitrogen as nitrites was greatest in the pool used by women, least in those used exclusively by men and gave intermediate values in the pools used by both sexes.

(3) The nitrogen as nitrates was greater in the pool used by women than in that used by men.

(4) The nitrogen as urea was ten times as great in the pool used by women as in that used by men. Urea was also present in greater concentration in the pools used by both sexes than in those used only by men.

(5) The chloride content was higher in pools used by women than in those used by men, and had intermediate values in pools used by both sexes.

(6) The nitrogen as free ammonia and as nitrates, and the chlorides were higher in pools without filtration than in those provided with filtration. Filtration had no influence on the urea.

(7) Cupric sulphate seemed to have no effect upon the chloride and nitrate content of the water.

### CONCLUSIONS

The contamination of the water in the pools used by women was higher than in those used by both sexes, and higher in those used by both sexes than in those used by men alone. This conclusion is based on the concentration of urea, nitrites, nitrates and free ammonia in the respective groups of pools. An explanation may possibly be found in the fact that the male bathers enter these pools nude after a shower bath, while the women wear bathing suits during the preliminary shower and while in the pool. Unless these suits be scrupulously cleansed and sterilized each time they are used, they carry either or both compounds, which are an index of pollution, and bacteria, which produce such compounds by their activity in the waters of the pools.

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**A PROTEST AGAINST THE NON-RECOGNITION OF OPTICAL DEFECTS**

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WHILE not so astonishingly unusual or surprising as to excite wonder in the mind of the physician, still, the case herein cited may tend to renew one's faith in the knowledge that a correction of a refractive error does occasionally surprise and delight even the most skilled and successful oculist. Many things recognized and accepted as established facts, sometimes sink into the shadows of forgetfulness and neglect, and hence an occasional reburnishing of the rusted faculties may not be wholly unprofitable.

Several months ago, Mr. A. D., aged 47 years, consulted me for a severe headache and tinnitus aurum. The patient is a tall, well-developed man, sanguine temperament, though now a picture of distress and apprehension. He consulted me because some friend said I was "good for head troubles," and evidently not because I treated the eye. No mention was made of any ocular disorder, but the burden of complaint was a constant headache, often of a throbbing character, and not infrequently most excruciatingly severe, so that anodynes, hypnotics, etc., were employed. Pain begins on the vertex, passing forward to the supra-orbital region and the eyeballs, worse on the left side, with a sensation in the brain as though squeezed in a vise, with great pressure on the vertex. All the head symptoms are aggravated by lying down, by strenuous activity, by mental disturbances, by criticism, opposition, etc. He is so easily annoyed and excited that his family are rendered uncomfortable. He complains that his scalp and even his hair is sore and tender to touch. Has tinnitus aurum, right side, with deafness and vertigo. Without going into non-essential details of the examination, I found the M. T. right ear largely destroyed from a probable suppurating ear of long ago, hearing watch at 2 in., left ear 12 inches, the M. T. somewhat retracted and sclerosed. Some hypertrophy of the nasal and pharyngeal mucosa. Gastro-intestinal disorders of a severe and constant character, were factors of a menacing nature. Questioning elicited the fact that none of the many physicians who had treated him, had ever examined his eyes, or even suggested the possibility that his visual apparatus might be the seat of his troubles. I wonder why!

From the history of the case, I learn that he has passed through a long siege of heroic drug-medication and that many of his discomforts were undoubtedly intensified thereby, until he had become almost a wreck.

Examination of the eyes resulted as follows: O. D. V. 17/15; O. S. V. 17/20. Esophoria, hardly discernible. Slight hyperemia of the fundus oculi. No other ocular abnormality discovered.

After three refractive examinations, the following prescription was given:

R	O. D. + .50 Dc. ax. 180	} Distance.
	O. S. + .62 Dc. ax. 180.	

and + .75 added for near.

Within four weeks from the time glasses were prescribed, Mr. D. came into the office with a smile on his face and exuberant joy in his voice, that told its own story. He reported no headache, no vertigo, no tinnitus, no head nor ocular discomforts of any kind, no stomach or bowel disorder, sleeping well and feeling like a new man. His wife says his disposition is much better.

With so many complaints, so varied in character and continuing for years and constantly growing worse, to realize almost absolute immunity from his ailments within a few weeks by simply correcting an uncomplicated refractive error, is a most gratifying result, though many cases similar in character might be found among the records of almost any oculist. Surely, Emerson's law of compensation does occasionally illumine the dark places in the life of the faithful oculist and helps to make his daily toil well worth while.

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**SYMPTOMLESS HAEMATURIA.**—Burgess in a clinical lecture devoted to the above subject, analyzes 100 cases of symptomless haematuria with most interesting results. In 65 cases the cause resided in the bladder. Of these 41 were due to villous papilloma and 18 to malignant disease. Only one of them was the result of stone, and three were due to enlarged prostate. There were 35 cases of renal origin. Nine were due to malignant disease; 3 to calculus; 14 were of undetermined pathology; and the remainder were scattering. The principal lesson to be derived from Burgess's figures is the infrequency of calculus as a cause of symptomless haematuria, and the great importance of malignant disease.—*British Medical Journal*, May 20, 1922.

**INCIPIENT TUBERCULOSIS AND TREATMENT**

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and the Worcester Homœopathic Medical Society, October 5, 1921.)

INCIPIENT TUBERCULOSIS—and by this is meant incipient pulmonary tuberculosis—should not be difficult of diagnosis. Nevertheless, as one of the official examiners in New York City for the New York State Hospital for Incipient Tuberculosis, I find I am obliged to reject many cases referred to me for examination. The rejections amount to nearly one-half. For example, of the last one hundred cases examined, 54 were accepted and 46 rejected. Each one of these cases had been examined by two or more physicians and had been recommended as suitable cases for the State Hospital before reaching the official examiner.

The New York State Hospital for Incipient Tuberculosis accepts only cases of pulmonary tuberculosis in the earliest stages. It is a charity hospital maintained solely for residents of the State. The State pays part of the expenses; the community from which the patient goes pays the other part. For this reason, all applicants from New York City must be investigated as to their character and financial status by the Department of Public Welfare of the city. If found worthy, they are then examined by the official examiner as to their physical condition and accepted or rejected as the case may be. The examiner receives his authority from the Board of Trustees of the Hospital. Men and women between the ages of 16 and 50 are accepted.

Of the 46 cases rejected in the last hundred that were examined, 38 were too far advanced. That means either that the area of lung tissue was too extensive; or that there was evidence of tissue destruction, as shown by the breathing sounds, too rapid pulse, hemorrhage, fever, and so on, even when the area involved was circumscribed. Two of the 46 had a lesion of the mitral valve of the heart; four had pleurisy with effusion; one had tubercular glands; one had eczema.

Many of the tuberculosis patients referred have had a diagnosis made but a short time before, although many of them must have been sick for a long while. This is as true of cases

seen in consultation in private practice as it is in the work as official examiner for the State Hospital. This mistake—a late diagnosis—is due, very often, I am sorry to say, to delay on the part of the examining physician in making a careful physical examination of the patient.

The initial general symptoms of tuberculosis are frequently very indefinite. The patient notices that he tires easily and is not quite so energetic as he formerly was. He may notice that his "wind" is not as good as it used to be; he is inclined to be a little short of breath on exertion. The pulse is faster than normal. It may not be much—80 to 90—or even a little more. This is very important. He may feel a little feverish at times. In other words, he does not feel quite up to par. Physical examination of the chest should always be made of such patients. Frequently evidence of tuberculosis will be found.

Other patients report having had a "cold" that hung on, and have not felt good since it started. Such patients should be carefully examined for chest conditions.

More obvious cases are those that have coughed up a little blood, or even had quite a hemorrhage. Then there are those who have had influenza, or pneumonia, or pleurisy, or perhaps have just a slight cough that persists. The chests of these patients should be examined as a matter of course. After the influenza epidemic of 1918 I expected to see many cases dating their illness from that. Until this year there were but few observed; however, for the last few months many such have been seen.

The diagnosis of pulmonary tuberculosis depends on the findings of a careful physical examination. The general appearance of an individual gives no idea of the condition of his lungs. Very late in the disease, when emaciation is marked, there may be a characteristic phthisical look; but early in the disease there is not, neither is there a characteristic shaped chest. It is important to emphasize these facts because there seems to be a tradition that the tuberculous patient is built differently from other people.

To examine the chest, the patient should be stripped to the waist. On inspection, we note the frequency of respiration. It may be slightly increased quite early in pulmonary tuberculosis, especially after a little exertion: we may find that the two sides of the chest do not move equally—one side may



move more than the other, or one side may lag behind the other.

On palpation, we note the same things as in inspection. In very slight difference of motion of the two sides of the chest we may sometimes feel the difference when we cannot see it. By palpation we also get the vocal fremitus. This is done by asking the patient to say "ninety-nine," "ninety-nine," and placing the hands on corresponding areas on the two sides of the chest. Normally, the fremitus is a little more marked on the right side. Vocal fremitus is exaggerated over consolidated areas.

Percussion will reveal any areas of consolidation. This should be done very lightly over the entire chest, testing first one side and then the corresponding area on the other side. In the vast majority of cases the very earliest change on percussion will be found at the root of the neck above the clavicle. The resonant area on the two sides should be marked with pencil. If there is a difference between the two sides of half an inch or more, there is probably some infiltration of the apex on the narrower side.

Auscultation gives us the breathing sounds. It is easy enough to get major changes, but the changes in early cases requires some care. Probably the earliest sign is an exaggerated expiratory murmur, heard above the scapula at the back. Then, if we get the patient to whisper "ninety-nine," the two words will be heard more or less distinctly over areas of infiltration. If the lung tissue is normal, the whispered sounds are not transmitted. Then we listen for rales. There are three areas that should always be explored in doubtful cases—just below the clavicle in front, in the axillae, and above the scapula at the back. Sometimes rales are not heard in ordinary breathing, but if the patient is asked to cough and then take a deeper breath the rales will be heard.

A careful physical examination conducted as here outlined will give a pretty accurate idea of the patient's condition, whether he has or has not pulmonary tuberculosis.

An X-ray picture may help to confirm the diagnosis, but it can never take the place of a proper physical examination.

Pulmonary tuberculosis may be safely diagnosed from the physical examination, even when tubercle bacilli are not found in the sputum.

Now, as to treatment. You are all familiar, of course,

with the fundamentals of general care—rest, physical and mental, fresh air, good nourishing food.

Climate may also be a valuable factor in treatment. There are certain places throughout the world that enjoy great reputations as health resorts for lung invalids. In this country, New Mexico, Western Texas and Colorado are probably the most beneficial. But care must be used in selecting cases to go away. Climate cannot help unless the patient has means enough to pay his way for a year or two in the new environment; and, again, the physical condition of the patient must be taken into consideration. All patients will not stand a change of climate. Home is the best place for many, especially the very sick ones.

Now, as to medicines: Bacillinum is the first I wish to mention. This is a trituration of tubercular lung tissue. I use the 30th potency. In early cases it is my custom to give a dose of Bacillinum once every ten days to two weeks. I have had many early cases that cleared up after a few months' treatment with this preparation. In late stages of tuberculosis, Bacillinum is of no benefit.

In passing, I might say that I have often used Bacillinum in grippy colds, or in bronchitis where a cough has persisted despite the usual treatment. It is quite astonishing sometimes to note how promptly a dose of Bacillinum will stop such a cough.

Pulsatilla is probably the strictly homœopathic remedy that I use most often in early tuberculosis. In the beginning, we have a catarrhal condition of the affected area, and Pulsatilla is a great catarrhal remedy.

Bryonia is of more service later. It is useful for the cough. It is particularly useful where there are pleuritic pains.

In cases of hemorrhage or with bloody streaked sputa, I give Ferrum phosphoricum. That is my stand-by. I use the 6x trituration.

There are many other remedies that may be called for in particular cases, but these few are the ones I use most often.

## CARCINOMA OF BOTH BREASTS, SIMULTANEOUS AND PATHOLOGICALLY DIFFERENT

BY HERBERT L. NORTHROP, M.D., F.A.C.S., PHILADELPHIA

(Read at the Meeting of the Staff of Hahnemann Hospital of Philadelphia.)

THE case that forms the basis of this report is the following:

Miss S. B., age 49; general health excellent; has not lost weight; no family history of cancer.

*Right Breast.*—Patient noticed lump in same five months ago. No pain or soreness in this breast, but it has been uncomfortable.

*Left Breast.*—History of "enlargement" for past year. Breast hurts, aches—feels as if she had bumped it.

*Status Praesens.*—Right breast irregular, showing tumor in outer, upper quadrant; nipples retracted and growth adherent to skin; two small, hard, lymphatic nodes can be felt in right axilla. Tentative diagnosis, scirrhus carcinoma.

*Left Breast.*—Is larger than right; nipple not retracted. Whole breast is occupied by a firm mass; no attachment to skin; no axillary adenopathy. Tentative diagnosis: Chronic mastitis, or fibroadenoma.

*Operation.*—May 4, 1922. Radical removal of the right breast by the Willy Meyer operation, removing a broad elliptic area of skin, all of breast, both pectoral muscles and careful dissection of axilla. Breast contains a small typical area of carcinoma. A few axillary glands were affected.

*Simple Amputations of Left Breast.*—Removing an elliptic area of skin, all of breast and considerable axillary fat and glands. Breast contains a large fibroadenoma  $3\frac{1}{2}$  inches in diameter, and toward the periphery of the breast there was considerable cheesy material. The axillary glands were not involved.

Dr. Sappington reported his pathological examination as follows: "Right breast shows grossly a typical malignant nodule, which microscopically proves to be a scirrhus carcinoma.

"Left breast shows grossly a diffuse fibrosis more or less characteristic of a chronic diffuse mastitis. The center of the mass contains suspicious areas which microscopically prove to

be carcinomatous. This growth, however, looks like a duct carcinoma.

"One might suspect, therefore, that in this bilateral malignancy of the breasts, there were two individual cancers of independent origin."

Brief mention of cancer of both breasts has been made by many authors.

Rodman, in his book on "Diseases of the Breast," page 183, says: The occurrence of carcinoma in *both breasts* is rare, although it is probably more common than many have been led to believe. Personally, I have seen only two cases.

Out of 132 cases of mammary carcinoma which came to operation in the Göttingen surgical clinic between the years 1875 and 1885, Hildebrandt states that there were six in which both breasts were affected. A like number was found out of 250 cases reported from Esmarch's clinic at Kiel. Out of 228 cases operated on at the Augusta Hospital in Berlin, there were only two in which both breasts were affected. In a report of 200 cases treated at the General Hospital at Copenhagen between the years 1870 and 1888, Poulsen states that the disease was present in both breasts in 11 cases. Albert describes a case in which both breasts were apparently affected simultaneously, and Poulsen mentions another in which each breast presented a tumor of equal size, both of which were said to be of one year's duration. Anton Beck, in his Munich Thesis, 1904, mentions two cases occurring in the service of Prof. Klausner in which the tumors in the breasts appeared simultaneously; in one of these cases the growths were of two years' duration, in the other of three months' duration. Thus it is seen that there are apparently authentic cases in which both breasts became diseased at the same time, but, of course, certain allowance must be made for the accuracy of the patient's observation. In the two cases of Klausner there was a decided difference in the size of the tumors in the two breasts; Albert's case did not come to operation and so, of course, positive data as to the size and nature of the tumors could not be obtained.

Parker reported cancer of both breasts in  $3\frac{1}{2}$  per cent. of his cases. Lockwood mentions an incidence of cancer of both breasts in 5 per cent. of cases. Terry, studying this subjects at Johns Hopkins, through the courtesy of Dr. Joseph Bloodgood, reports cancer of both breasts in 3.36 per cent.

*None of these reports, however, refer to a difference in pathology in the two breasts such as Dr. Sappington has reported in my case.*

Kilgore, *Jour. A. M. A.*, Aug. 6, 1921, has apparently demonstrated that a woman who is free from recurrence from three to five years after the complete operation for cancer of one breast runs a larger risk of cancer of the remaining breast, than a woman of the same age who has had no trouble in her breasts. It seems, therefore, justifiable, Bloodgood says, that we should seriously consider advising women in this group to have the remaining breast removed.

Greenough, Boston, reports 639 cases of breast cancer, among which were five cases where both breasts were involved at the time of the first operation. Kilgore says that these facts deserve careful consideration and post-operative observation with second breast cancer in mind. Many of the patients with second breast cancers (metastatic) delay from three to nine months after the onset in the second breast and the mortality is very high, about 80 per cent.

Ewing states that cancer appears to originate in both breasts in about 1.5 per cent. Benassey rightly distinguishes between (1) cancer of the second breast developing after amputation of the first, which is not uncommon, and (2) cancer developing in the second breast from an original focus in the first, and (3) primary bilateral cancer, which is rare.

Ewing further states that carcinoma arises in the bulky forms of chronic, productive mastitis, usually as a single nodule, but often in multiple foci. This combination produces a very characteristic gross, anatomical form of the disease which is not easily recognized by palpation. The breast presents a solid mass of firm, elastic connective tissue, of large, or occasionally reduced dimensions, and in it are found one or more areas of dense fibrocarcinoma. The malignant process arises in ducts or sweat-glands which are early broken through by groups of tumor-cells.

In some cases of productive mastitis and possibly in otherwise unaltered breasts the acinar epithelium may give rise to a malignant form of scirrhous or fibrocarcinoma. The structure is highly characteristic and the process is fully malignant.

**DISEASES OF THE BILE PASSAGES AND GALL-BLADDER**

BY J. H. CARMICHAEL, M.D., SPRINGFIELD, MASS.

(Read before the Western Massachusetts Homœopathic Medical Society, Dec., 1920.)

THE upper abdomen is subject to many serious pathological conditions, and it requires many years of experience to become acquainted with them—not to say master of the art and science of managing successfully the many complications. The greatest of these is gall-bladder surgery. The most frequently met condition is biliousness. This condition is familiar to you and entails no pathological process. Indiscretion of diet, and possibly alcoholic stimulants are its most frequent causes. General malaise, giddiness, headache, nausea and often vomiting are its symptoms. The old school physician orders his patient to refrain from eating and drinking for 24 hours, to take calomel  $\frac{1}{4}$  to  $\frac{1}{12}$  grain every hour until ten doses have been taken, then a dose of magn. sulph. before breakfast. Podophillin compound pill is also recommended. How much simpler you would treat the case.

Cholecystitis or catarrhal jaundice frequently begins with symptoms of acute gastritis. The pathology of this is duodenal catarrh, with a swelling of the mucous membrane of the papilla of Vater, inflamed mucous membrane of the bile ducts and gall-bladder. Prognosis is favorable with recovery in from four to six weeks. Elsner especially recommends tinct. nux vomica, 5 gtts. after meals, (a good treatment when the trouble follows a long debauch); Carlsbad salts two or three times daily; normal salt solution 12 oz. every four hours, by enema.

*Homœopathic Treatment.*—Of course, the totality of the symptoms governs us. We will find that acon., ipecac, bryonia, chelidonium, merc., phos. and china will cover the symptoms generally. The diet is restricted to milk and Vichy, peptonized milk, oatmeal, or farina gruels, junket and whey. Avoid greasy foods; later, tea and toast, milk toast, lamb broth, beef tea. Raw acid fruits are to be avoided. No alcoholic stimulants are permissible. If the bowels are inactive an enema of magn. sulph. may be given. Normal salt solution, by enema, may be used to stimulate the action of the kidneys.

In my own case in 1917 when I was poisoned by the toxin

of veal, there developed a severe inflammation of the stomach, duodenum, papilla of Vater, the gall ducts and pancreas. I was confined absolutely to a diet of junket, and water slightly acidulated with lemon juice for three weeks. No other kind of food could be tolerated on account of the excessive secretion of hydrochloric acid and nauseating emanations from my stomach. During all the time I took phosphorus with now and then some intercurrent remedy that seemed indicative. Why did I take phosphorus? In these severe cases of cholecystitis there is danger of fatty degeneration, and as phosphorus in poisonous doses causes fatty degeneration of the liver, it was the similia. The first article of diet I was able to take after living on junket for three weeks was a ripe banana, which is a pure glucose, practically. Connected with catarrhal jaundice one is apt to suffer from a severe pruritus. The very best application I am conversant with is chloral hydrate, 1 oz. to 12 of water. This is used by saturating a sponge and bathing the irritable skin when the patient complains. If cholecystitis returns, even though in a moderate degree, gall-stones are pretty sure to develop. We should, therefore, do all we can to overcome this tendency. Chelidonium and china are indicated. We may also prescribe Carlsbad salts two or three times a week, and restrict the diet to plain food, avoiding fats and carbohydrates in general. Cholecystitis is supposed to be of infectious origin, either from colon or of typhoid bacilli. Their continued presence develops an inflammatory process that is destructive to a liquid condition of the bile; the cholesterine and other bile salts become dry and form stones. All old-school authorities for the last fifty years have recommended olive-oil for this condition; and I have used this oil for my patients upwards of forty years with gratifying success. The oil is given in from 1/2 to 2 oz. doses three or four times daily.

In spite of our best endeavors gall-stones will form. They form without the knowledge of the patient or the doctor, as probably you know only too well. Your patients, if they complain at all, will do so of a slight dyspepsia, gas in the stomach which may have gone on for years. If he consulted a physician, it was for indigestion (diagnosed by himself). The doctor gave him some simple remedy. He seemed relieved and may not call on the doctor again for many months. If the stones are small, of the millet-seed size, he will have attacks of pain, sometimes severe, but as the pain goes as

quickly as it came, he goes on believing he had an indigestion, and then commences to analyze his previous meal and just what he ate that hurt him, and henceforth avoids such food. If the stones are a trifle larger, the size of a small pea, one of them may become caught in the cystic duct and the pain will be excruciating, and a physician will hastily be summoned. These are the cases that are readily diagnosed, severe pain in the epigastric region going through to the back, or starting in the back and coming through to front means only gall-stones. Dioscorea 15m. in 1 oz. of hot water at a dose repeating in ten minutes, and again, if necessary, usually gives relief. If not, I do not hesitate to give morphia hypodermically. Next china 6x every four hours for a week; every eight hours for a week; every 12 hours for a week; every 24 hours for a week; every 48 hours for a week; every 96 hours for a week; once a week for a month. This was Dr. David Thayer's treatment for gall-stones, and forty years ago he sent this remedy all over the United States, Canada and Europe. He was sure he cured these cases, and I am sure he died still believing so. I have come to the conclusion that the china removed the inflammation converting the gall-stone sufferer into a gall-stone "carrier."

I remember very well that I treated many cases of gall-stones during my first years of practice in Springfield, and many considered themselves cured. One man who had been a great sufferer from frequent and violent attacks and completed the china treatment, improved and finally, after a course of prayer bragged of his wonderful cure, giving all the credit to a Mrs. Smith who healed by prayer. I was called to him eight years later and found he had an inflamed gall-bladder and jaundice. I told him it was his old gall-stones and advised operation. He had not forgotten his faith in prayer, so tried that. A few days later I saw the notice of his death at Springfield hospital of cancer of the liver. During that year I knew of nine cases dying of cancer in the hepatic region that I had previously treated for gall-stones. This lesson cured me of curing gall-stones with medicine. If I have a patient not ready to accept an operation I give him dioscorea and chelidonium 2x to carry with him, and on the approach of an attack alternate them every ten minutes until better. If not relieved in an hour they are instructed to take plenty of hot water, sometimes adding salt until the pain subsides or vomiting takes place; that usual-



ly terminates the attack; no more morphine or china. I feel that the proper thing for that man is to have an operation and the conservative thing; and if he has not the courage, a few attacks will force him to do what is right. So long as you make people comfortable they will not accept operations. Under such circumstances their disease progresses to a point where it is well-nigh impossible to do anything for them. If experience teaches anything it teaches us that such conditions as cholelithiasis and hypertrophied prostate are curable conditions and readily so if operation is performed early enough by a competent surgeon. Therefore, I am throwing out the suggestion that we have done and are doing too much in the way of alleviation for these cases. A good sharp paroxysm of gall-stone colic or a prolonged retention of urine will do more to get that man to do the right thing than a week of moral suasion. A few illustrative cases:

In the year 1890 Mrs. H., a wealthy lady, had repeated attacks of gall-stone colic. Of course, I gave all the indicated remedies, and, I fear, some that were not; but she continued to have the colic many times, as often as two or three times a week. Finally someone suggested Holland gin in half oz. doses at time of colic, which she took with great success. She had the attacks as often but the gin either modified or aborted the pain. Away on a summer vacation she had a more severe colic than usual. She called a physician who prescribed sodium phosphate in drachm doses every four hours for three or four days, then twice daily. It was the first drug that seemed to control the frequency of the paroxysms. She finally went abroad and took the hydropathic treatment at Carlsbad. The physician in attendance there told her she never had gall-stones, but instead an inflammation of the gall-bladder. She was glad to apprise me of the fact on her return. She had an attack occasionally. About six months later her husband came for me in the evening saying his wife was in great distress because her bowels were trying to move, but unsuccessfully. I ordered a soapsuds enema: an enterolith passed and this was the cause of the lady's troubles. Since then she has been well.

Ten years ago J. W. came to me complaining of gas in his stomach which caused some distress. I prescribed for his subjective symptoms with relief. Every three or four months he would drop in to talk horse and incidentally would get some more medicine for indigestion. He kept this up for six years.

He was a baker and didn't get a great amount of outdoor exercise, but looked well. Four years ago while I was away on a fishing trip Jim had a more serious attack of indigestion than usual and called his brother's physician. After getting his history he said: "You haven't indigestion but are suffering from overwork causing nervous prostration, needing a good long rest in the mountains. The nerves of your stomach are sick and gone on a strike." He took the doctor's advice and went to the mountains, but did not improve. As time went on he felt the indigestion more and more. The first of September he came home, having been away since the middle of June. His employer was interested and took him to New York to see her sister's doctor, who sent him to a hospital and had his stomach X-rayed for ulcer. They found a supposed ulcer and advised operation. Jim said: "If I have to have an operation I know who will do it." He came back home and came to me telling me the story I have just related. I hadn't seen him for a year. "Well," I said, "we have an X-ray machine as good as any, and you go to the hospital and have another picture and we will decide what ought to be done." The picture shows an opaque spot rather low for the pylorus. This was my only remark. I cut directly over this spot, and as soon as the peritoneum was open the gall-bladder fundus came up through. I did a cholecystotomy, removing this large sized mulberry stone.

The technique of this ideal operation is very simple and as I do it very frequently I feel justified in mentioning it here. I am the only surgeon to my knowledge doing this identical operation, and as I have now been doing it for about twenty-five years it is about time that I published it. In my judgment, the gall-bladder is clinically free from disease (our pathologists will tell us that no such condition exists). I cut an opening into the bladder, evacuate the bile and stones, flush the cavity of the gall-bladder, then sew up the bladder incision with three rows of sutures, take out my packings, drop the gall-bladder and sew up the abdominal wound. My patient makes as good recovery as is usual after an appendix operation. I have done this operation a great many times and never with any regrets; never lost a patient, and they never suffered from after-effects, and never, so far as I am aware, had any further gall-stone accumulations. Years ago, more than twenty-five, I early came to the conclusion that a thickened gall-bladder should be re-

moved when possible, the ducts being patulous, so that the bile could flow from the hepatic ducts through to the intestine. Cholecystectomy is a far more serious operation than either cholecystotomy or cholecystostomy (drainage of the gall-bladder). The next four or five days after the removal of the gall-bladder are apt to be stormy, but I think the end results far superior to those following cholecystostomy. The leading surgeons of the United States have adopted this method; such men as the Mayo Brothers, Finney, Bevin and Ochsner, of Chicago, Cryle of Cleveland, and lesser lights, during the last five years. Some day I shall expect these same men will remove the stones from a clinically sound gall-bladder and close it without drainage.

Case 3. Mrs. G., 58, came from out of town to consult me about her indigestion. She suffered fifteen years. If she ever got tired she generally had distress. Certain kinds of food were prone to distress her and finally she had gotten down to three or four kinds that she felt fairly safe in eating. I found she did not always suffer after eating, might go three or four days without gas distressing her; did not come at any stated time, and my conclusion was that she had a gall-stone; one large one, as she did not have excruciating pain, enough so that she had to send for a doctor. I told her what I thought and advised operation. She was very much excited and nervous. She replied, "I'll think it over." I came back, "You have been thinking it over for fifteen years; better let someone else do the thinking for a time." She laughed and said, "When shall I go?" I operated her a few days later, doing cholecystotomy. I found one stone a trifle smaller than the one exhibited. She left the hospital in fourteen days and can eat anything she desires.

Case 4. Mr. C. 62. History of nine years. He was a sufferer from a gastric trouble, diagnosed from time to time as fermentation, indigestion, ulcer of stomach. He was a traveling salesman but four years ago gave up his business, as he thought being on his feet and going about as much as he was obliged to aggravated his trouble. His periods of gastric disturbance were aggravated at times, but improved by rest, dieting and medication. But they persisted in returning no matter what he did. His one great complaint was gas. A few weeks ago he sent for me and I found him suffering from what appeared to be an obstruction of an intestinal nature;

but to be honest I was puzzled and I frankly told him so. He described his pain as starting to the right of his umbilicus and going diagonally upwards to the region of the heart. I wanted to say, there isn't any such pain. However, he was so full of gas and so distended I couldn't make head or tail out of the case. I ordered an enema of magn. sulph. 1 oz., warm water 8 ozs., and lycopodium 30x every two hours, and I was to call next A. M. I did so, and found his bowels had moved freely and gas gone. All right now, feels better than any time during the past week. I examined the region of the gall-bladder, found it sore, no further evidence of trouble. Upon questioning him further I was satisfied he did not have any direct symptoms of ulcer.

*Diagnosis.*—Gall-stone. Advised operation as the only cure. In a day or so I operated and found just thirteen stones. The gall-bladder was not thickened so I did the same operation as on the others. He was a pronounced bleeder. He also had a very sensitive stomach and vomited more or less for about five days. He made a good recovery. Mayo says gall-stones are foreign bodies and, other things being equal, they should be removed before infection (you notice he says—and Mayo is an authority—removed before infection takes place! If we can remove gall-stones before infection takes place, what in the name of Heaven do Smith, Jones, Mayo and all the rest of the surgeons drain the gall-bladder for?) and other complications occur, which increase the risk of operation and diminish the patient's chances of a permanent cure.

Mayo further says: "In simple cholelithiasis the calculi are found free in the cavity of the gall-bladder. As a rule the bile enters and leaves the bladder without hindrance, and the colic is a manifestation of temporary obstruction from a stone and the gall-bladder becomes a closed cavity." The patient has a typical "gastralgia" of the ancients, a pain which is referred to the epigastric region, extending up behind the sternum through to the back. The gall-stones are the responsible agents in the production of serious complications inasmuch as they set in motion a train of events which would not have occurred had the gall-stones been removed early in the history of the disease. My belief is, as soon as a diagnosis can be properly made, an operation should be advised and done. The danger of reformation of gall-stones after removal is exceedingly small. I have never had it occur in my prac-

tice. Mayo only reports three out of a large series of cases. However, I have in mind a very interesting case that occurred in this city. The Rev. Mr. R——, who, after suffering a couple of years from gall-stone colic asked me what I would do if in his place. The first thing I would do would be to get a doctor who knows something and then follow his advice. He replied he had had four doctors. He did change physicians, and this doctor sent him to the late Dr. Maurice Richardson who did a cholecystectomy. He recovered and came home. About a year later his old attacks returned and continuing, he went again to Dr. Richardson, who was surprised, and told him he couldn't have gall-stones as he had removed the gall-bladder. The reverend gentleman came home, but he had the colic just the same. Then his physician sent him back to Dr. Richardson and told him to remain until Dr. Richardson was satisfied what was the matter.

After having several attacks Dr. Richardson again decided to see what was the matter. He found three sizable stones in the hepatic ducts. Gall-stones in the gall-bladder are a menace from irritation, they produce a recurrent peritonitis, or the local symptoms disappear and the patient develops a chronic gastric trouble. Treatment directed to the stomach in such cases is about as effectual as it would be to deluge with water a fire alarm box because it is sounding an alarm of fire. Operation affords the only means of a permanent anatomical cure. Medical treatment may relieve the symptoms, possibly removing an irritable cholangitis having a so-called clinical cure, and transform a gall-stone sufferer into a gall-stone carrier. The early operation, *i. e.*, before complications have arisen, is safe; the mortality being *nil*, or at the most, one-half to one per cent. The early operation prevents complications on the part of the gall-bladder itself (perforations, adhesions). On the part of the common bile duct, cholangitis and septic infection; on the part of the pancreas, pancreatitis and abscess. Lastly, it prevents cancer. To sum up. Early operation is safe, it is sure, it prevents secondary and often pernicious complications.

I do not think it essential to give the operative technic, but this operation should not be undertaken by the novice, as it is liable to be the most difficult, most exacting, requiring the very greatest judgment of all the operations in the upper abdomen. A surgeon should not attempt any operation

which he cannot complete, no matter what complications he may encounter; and yet he must be capable and competent so as to know just how far to go. One often meets here many severe adhesions and the worst kinds of complications; therefore, only the experienced surgeon should undertake operations with the upper abdomen. An operation undertaken and not completed in this region most always results in death.

I will define most of the operations done on the gall-bladder and ducts:

1. *Cholecystotomy*—Opening gall-bladder, removing bile and gall-stones, and closing the incision immediately without drainage.

2. *Cholecystostomy*—Opening gall-bladder, removing bile and stones, insertion of drainage forming a fistula between gall-bladder and skin.

3. *Cholecystectomy*—Removal of gall-bladder with stones intact.

4. *Cholecystenterostomy*—The common duct being irreparably occluded, we join the gall-bladder to the duodenum or the jejunum.

5. *Cysticototomy*—Incision into cystic duct.

6. *Choledochotomy*—Operating on the common duct. My opinion is that gall-stones found within normal gall-bladders (clinically such) should be incised, the stones removed, the incision closed and dropped and abdomen closed without drainage. Diseased gall-bladders where the common duct is pervious containing gall-stones should be removed.

7. In bad cases of jaundice with obstruction to flow of bile into intestine, no operation should be undertaken until the ducts become patulous and bile shows in the feces; at least a reasonable length (3 or 4 months) should elapse.

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COMPARISON OF FORMOL AND WASSERMANN REACTIONS IN DIAGNOSIS OF SYPHILIS.—Ecker after conducting 500 tests concludes that the formol reaction as it stands is of no diagnostic value, because of its failure to react in clinically and serologically clear cut cases of syphilis, and the occurrence of positive reactions in the absence of the disease.—*Journal of Infectious Diseases*.

## ACNE VULGARIS: ITS TREATMENT

BY EDWARD M. GRAMM, M.D., PHILADELPHIA

(Read before the Germantown Homœopathic Medical Society of Philadelphia.)

THERE is no greater confession of inefficiency than to tell a young person suffering from acne vulgaris that he will out-grow the trouble and that it is nothing which should give him great concern. Its characteristic manifestations are so well known that no description of the disease is necessary.

In selecting the method of combating the development of the facial and trunk lesions of the malady it must be borne in mind that the reasons for its existence are to be found under one of the following rubrics or a combination of them:

First.—Developmental (hence endocrine).

Second.—Reflex (a tight foreskin or hood of the clitoris, diseases of the uterus and adnexa).

Third.—Dietetic (over-eating or eating combinations of foods of too high protein content at one and the same meal; too hot or too cold food and drinks).

Fourth.—Hygienic (improper care of the general surface).

Time will not allow a discussion of all the bearings of the proposition just laid down; but that it is a fact admits of no controversy and the commonest reasons for failure to bring about rapid amelioration and ultimate cure are two: *i. e.*, insufficiently thorough general examination of the patient and lack of eternal vigilance in seeing that the details of the treatment are carried out. The first lies at the door of the doctor; although extenuating circumstances often mitigate his responsibility because the youth of the patients makes them note but imperfectly deviations from the normal, particularly in subjective sensations. The second becomes operative through the patients putting off until to-morrow the things they are told they must do. Hence, co-operation with the doctor must be made a *sine qua non* of the directions given the sufferer from the trouble. He must be impressed with the fact that his eruption is an index of the functioning of all the sebaceous glands of the skin; therefore, the first direction he must receive is that he must take a daily bath, that to be followed by a thorough rub-down—first a drying of the skin with an ordinary towel and then friction with a Turkish towel until a con-

siderable glow is experienced. The severity of the friction must be graded from a mild one at the commencement of the treatment to one gradually accustoming the skin to rough usage. Young women are to be told to take the daily rub-down alone during the menstrual period. A bath taken in the morning after rising has more upbuilding qualities than one taken at night.

The second thing necessary to bring about a cure is to remove the comedones. This is accomplished with a comedo expressor; that is, a spud of metal with a cup at each end in which there is a hole two millimeters in diameter. The pressure must be exerted, with the comedo away from the centre of the hole, in the form of a rocking motion up and down along the long axis of the instrument and a lateral rocking across its long axis, it being held as one would grasp a pencil or pen. No bruising of the tissues will result from this procedure. Pinching the lesions between the nails is reprehensible and is liable to increase pus formation and scarring. The comedo expressor mentioned should be in the hands of every mother and the growing child should be watched for the appearance of the first comedo, for that is the initial symptom of an attack of acne and it can be nipped in the bud by watchfulness.

The third matter that needs to be emphasized is the diet. It is necessary to explain to the patient that the preparation of the food in the stomach for the needs of the body is more essential to health than any other function of the human organism. Therefore, the correction of any and all wrongs from which we suffer must be based on furnishing the blood-stream chemical compounds that are suitable for the repair of waste, for growth; and that are not such as will produce end-products irritating to the kidneys or any other of the emunctories.

Overeating is a more common vice with the average individual than undereating. Every one should learn that lack of hunger at meal-time gives notice that little should be eaten at that particular meal, no matter how tempting the viands set out may be. Eating must be done to keep the body functioning normally and should not be solely for the purpose of gratifying the taste. On that account, the person who learns to eat to live and not to live to eat will remain healthy longer and more efficient to a good old age. The main thought to be impressed on a given individual is that he should eat because



he is hungry and when hungry to eat what is set before him and the diet not confined in a narrow way to such things as appeal most to his palate. Let him learn that he may like some things more than others; but not to eat them to the exclusion of those very necessary to make the diet the vehicle of entrance of all the substances the body requires. It is a good scheme to tell patients who will eat too heavily in spite of admonition to take a teaspoonful or tablespoonful of olive oil just previous to each meal; for it is a well-known fact that fats taken at meals cause a feeling of repletion sooner than when none are ingested.

Indigestion, according to my observation, is due more to filling the stomach with food before the preceding quantity has been disposed of than to its character. Eating between meals or at night after a full dinner must be tabooed for that reason.

The function of the stomach is to convert substances unsuitable for use by the economy into chemical compounds that can further be changed into those able immediately to enter into the composition of the tissues or that can be oxidized in the heat-generating process. This conversion Nature intended should be accomplished at a temperature a little above  $98 \frac{3}{5}$  degrees. On that account, too high or too low a temperature of the food as it enters the stomach is injurious to the process of digestion. The stomach should not be required either to cool the food or to warm it to the requisite temperature. So, too hot food and drinks and too cold food and drinks must be cut out of the menu. How any student of physiology can say to a patient that ice cream and iced water are harmless is more than I can fathom; and yet both are allowed in the diet of many patients.

Fried foods are not easily digested and remain long in the stomach; as also do pork and preparations of pork, dried and salted and smoked fish and meats, lobsters and crabs and should not be eaten. The vegetables containing large quantities of cellulose, such as cabbages, turnips, rutabagas, onions and radishes are very indigestible and also must be prohibited. Cheese is undesirable. Adding much salt to the food at the table is a custom to which people are addicted more than they realize and the practice should be curtailed.

The question of eating sweets will come up in every case. The habit of eating a large amount of candy and chocolates,

in most instances between meals, is bound to be injurious. Small quantities taken with meals, particularly as dessert, as a rule, are not harmful. Water should be taken freely when candy or many sweet things are eaten.

Certain foods agree with some people and not with others and each patient must be requested to watch for himself whether he has an idiosyncrasy that compels the exclusion of some things that others can take with impunity. I am in the habit of telling my patients to write down the combination of food they took prior to the appearance of an attack of indigestion and then watch to see whether the same result follows a similar indulgence. One case I saw could not eat fish and beets at the same meal without disordering the stomach.

Having, then, emphasized to the patient the care of the skin, the necessity for the removal of comedones and the food that should be avoided, we come to what should be eaten. The amount of flesh-food intake should be reduced to the lowest quantity, for a time at least, and the proportion of vegetables and fruits radically increased. The fruits should be eaten unsweetened and stewed when they seem to agree better in that way. The various greens, in the form of salads or stewed are allowable. Rice contains very little protein and is useful on that account; it may be eaten plain, with butter but no sugar, or made into light puddings. Milk and buttermilk are valuable. It might be mentioned that the belief of some people that milk disagrees with them will receive a decided jar if they faithfully mix it well with saliva before swallowing it and do not take it too cold. Going through the motion of chewing milk accomplishes this mixing. To those who dislike the furred feeling left in the mouth by milk it is to be said that they must rinse the mouth with water and clean the teeth after drinking it and the trouble will be overcome. Whole wheat bread should replace that made from white flour. Gelatin and custards that are slightly flavored, but sweetened as little as possible, may be taken for dessert. Water heads the list of drinks; grape juice and lemon and orangeade are allowable. Coffee and tea may be replaced for awhile by some of the coffee substitutes if the patient feels the lack of those stimulants. Drinking the coffee substitutes may be of psychologic effect, if it has no other.

No case of acne can be handled with success unless thorough search is made for conditions which lower the vital-

ity of the patient. It appears at a time of life when the procreative system is being activated. This causes an instability of the nervous system; which, in turn, makes for general instability. The confidence of the patient, therefore, must be obtained so that he will call attention to any symptoms that may be helpful in indicating what must be done to bring the system up to that state of vitality necessary for throwing off disease and making it resistant to invasion—in other words, raising the opsonic index. A tight foreskin, an adherent hood of the clitoris, masturbation, all may need to be conquered before relief is obtained. It is not possible in the time allotted to this paper to cover all of the ground that must be gone over. Suffice it to say that when a patient has been examined most thoroughly and minutely we are ready to institute the necessary local and internal treatment.

The scalp must receive attention in connection with the regions usually affected by the eruption; for seborrhoea often will be found there and must be treated coevally with the face and shoulders and front of the chest.

It is the common experience of dermatologists that local and systemic treatment must be combined to effect a radical cure. Sulphur and resorcin seem to be the remedies particularly helpful for local application and, of the two, sulphur stands highest in my estimation. In the form of *lotio alba* it is best for the milder cases. *Lotio alba*, in the usual strength, is made up of one drachm each of potassium sulphide and zinc sulphate in four ounces of distilled or rose water. To that quantity a fluid drachm of glycerine may be added; or, if its strength is to be increased an ounce of alcohol may replace one of water. Next in value comes the Kummerfeldt lotion. Its formula is: one drachm of precipitated sulphur; fifteen grains of gum tragacanth; ten grains of powdered gum camphor; and four ounces of water. A still stronger application is one drachm of precipitated sulphur to one ounce of ointment base. The base may be *unguentum aquae rosae* (the so-called cold cream), *petrolatum* or *lanolin* made less glutinous by the addition of olive oil. Where there is a tendency to seborrhoeic reddening and scalding of the affected areas it is well to begin with the *lotio alba* of a strength of twenty grains each of potassium sulphide and zinc sulphate, gradually increasing the quantity; or a resorcin lotion may be applied. Resorcin is used in two to ten per cent.

strength. The applications are best made at night before retiring. Should the skin feel drawn in the morning cold cream must be applied by gentle rubbing and then as much as possible wiped off; this to be done after washing.

A valuable scalp lotion for seborrhoea is made of resorcin, twenty grains; liquor carbonis detergens, twenty to forty drops; bay rum or a saturated solution of boric acid in dilute alcohol two fluid ounces. Liquor carbonis detergens is a solution of coal tar in quillaya tincture. Stronger lotions may be required for stubborn cases and then bichloride of mercury, one-quarter to one grain to the ounce is helpful.

The high frequency current, applied with a flat vacuum electrode, produces a most remarkable and rapid change in the texture and appearance of the skin and is valuable for impressing the patient with the possibility of an early favorable termination of the treatment. This is the misnamed violet ray treatment, misnamed because the color in the vacuum is produced by the degree of the vacuum created when the electrode was pumped out; then, too, the ether waves produced by the electric disturbances of a vacuum do not penetrate glass. Pus formation rapidly is inhibited and sterilization of the skin brought about by the peroxide of nitrogen formed by the high frequency discharge.

The ultra violet light, either when made by an electric current passing from one iron water-cooled terminal to another, or by the mercury vapor lamp causes involution of existing lesions by destroying organisms that have become virulent to a given patient. The X-ray produces a similar effect; but in addition to destroying organisms irritating to the skin, causes a certain amount of destruction of sebaceous glands, and so should be applied only by one skilled in its use. Both of these agencies by themselves produce permanent cures in a very small proportion of cases, according to my experience.

I do not lay much stress on bathing the face alternately with hot and cold water, as the care of the general surface suggested causes improvement of the whole skin, thus reacting on the affected regions. Hot water compresses or long application of fairly hot water by means of a wash-cloth pressed to the face over and over again are of great value when used before removing comedones.

Internal treatment is absolutely necessary to restore the

skin to normal functioning. This is not theory—it positively has been proven that the serum of patients affected with acne causes a clumping of the bacilli found in comedones and acne lesions. This is proof positive that systemic changes are instituted by the secretions of the various organisms which are found in great abundance on the scalp and on affected regions. Physiological prescribing has no place here—the totality of the symptoms must guide us in the selection of the remedy; and the indications furnished by the lesions are but a small, though at times valuable, part of the manifestations of disordered vitality. Every case must be approached with an open mind as to what remedy will be found to be applicable.

Partial list of remedies to be studied when the most prominent symptoms are:

*Developmental*—Baryt. carb., calcar. carb., iodum, kali carb., phosphor., sulph.

*Digestive*—Agar., antim. crud., argent. nitr., chelid., dioscorea, iris, lycopod., nux vomica, pulsat. .

*Menstrual* (including generative) — Platina, pulsat., sabina, sepia.

*Sexual* (reflex)—Salix nigra., selen., staphis.

*Characteristic Lesions*—Antim, tart., arsen. brom., bellad., berber., bovista, hepar, kali bich., nitric acid, sabina, thuja.

**BENIGN TUMORS OF THE STOMACH.**—Eustermann and Senty say that benign tumors of the stomach are rare and constitute only 1.3% of all gastric tumors that have come to operation. The actual proportion of benign to malignant growths or ulcerations is as 1 to 200. Myomata and fibromata constitute the largest group; gastric polyposis the most infrequent. About 50% of benign tumors are found in patients more than forty years old. There is no characteristic syndrome and gastric chemism ranges from achylia to hyperacidity with hypersecretion. The summation of evidence favors the diagnosis of gastric cancer. The majority of tumors are situated in the region of the pylorus, the greater curvature anterior and posterior walls. The smaller tumors are practically symptomless unless situated at the orifices or unless multiple. Common complications are recurring haemorrhage and pyloric obstruction. Palpable mass and food retention are less frequent than in gastric cancer.—*Surgery, Gynecology and Obstetrics.*

## EDITORIAL

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### THE OLFACTORY SENSE AND THE INFINITESIMAL

IN the April number of *Harper's Magazine*, there appeared an article by Elwood Hendrick bearing the remarkable title of "Beyond the Laboratory." This article calls attention to the fact that the human nose is a far more delicate instrument of precision than any laboratory apparatus, and is capable of detecting the presence of certain "will-o'-the-wisp bodies" which no balance, no reagent, no indicator can reveal. In the course of his article the author proposes "the organization and study of olfactory analysis, in the hope that it may lead to making the human nose useful." Waxing enthusiastic he says, "If we could make an advance of even a small fraction in human intelligence by the introduction of the use of a neglected sense, we should provide for a development in human progress that is intrinsic and subjective, which would loom large against our present efforts to achieve advancement through the mechanic arts. It would provide improvements in the operation of the human mind which are fundamental, which would be real steps ahead instead of mere conveniences, or the shortening of the time factor in work of which we have boasted large and loud."

Early in his article the author gives several remarkable examples of the importance in the industrial field, of the minute bodies which hover about us in dilution and of which our noses tell us. These include cheeses, apples and "apple-oil," eaux de Cologne, flavoring extracts and "hooch." Those now addicted to visiting secret places declare that "hooch" made of molasses alcohol and heaven knows what, is vastly different from the old rye and bourbon whiskies, yet to the chemical eye molasses alcohol is the same as that distilled from a mash of corn, but even to the uncultured nose the final products made with it are different.

Again the author makes an appeal for the appreciation of the practical value of the infinitesimal. He says, "The physical chemist has engaged so much in high attenuations that the rest of us have sometimes grown restless and have asked him to come down to earth and deal with practical quantities and concentrations. But I think the question fair whether the rest of us should not reach up toward the sky, and consider more

thoroughly and more definitely the high attenuations." Pressing this point he quotes Irving Langmuir as authority for the following calculation: If the atoms of a cubic foot of air were changed into grains of sand that would pass through a sieve of one hundred mesh to the inch, the air being at ordinary temperature and pressure, there would be sand enough and to spare to fill a trench three feet deep and a mile wide from New York to San Francisco. Again it was recently reported by the Bureau of Chemistry of the United States Department of Agriculture that the quantity of "apple-oil" is 70 hundred-thousandths of one per cent. in the Ben Davis apple and 130 hundred-thousandths of one per cent. in the more odorous crabapple.

It is of interest in this connection to call attention to the June 10th number of the *Journal of the American Medical Association* in which it is stated that the minimal lethal dose of botulinus toxin in the stomach during active digestion is  $3 \times 10^{-21}$  c.c. or 0.000,000,000,000,000,003 c.c. for a mouse, and when converted from mouse to human dosage by an increment of several thousand times this figure the quantity of actual substance remains within the limits of the infinitesimal. A teaspoonful would menace a nation."

At last the infinitesimally small is coming into its own!

Perhaps Mr. Hendrick is too extreme in his claims for a more highly perfect olfactory sense. He says that "the man who could smell better and with more understanding than the rest of us could think better and know more than the rest of us." He advises that "we do less talking and more smelling," that we practice with "a standard smelling bottle" and make tables of the olfactory power of bodies. We do not feel that it would be of any great advantage to recognize another's fear or grief or affection by the nose method as Mr. Hendrick suggests, but all of us are aware that patients ill with typhoid, diphtheria, and uremic states have an odor "all their own." It does not require leaps of the imagination to appreciate that other diseases may have their peculiar odors which are not now appreciated by us. Various products of degeneration might make themselves known to us if our noses were more highly trained—had received a college degree, so to speak.

The physician is afforded ample opportunity to acquaint himself with the odors of diseased states. He need not go

beyond the laboratory. He has the odors in comparatively low dilution at the bed-side with which to perfect his olfactory apparatus.

Our present day civilization tends strongly to let our special senses atrophy from disuse—witness our almost lost power of thought transference (mental telepathy). We believe that if all of us would avail ourselves of the opportunities afforded for the training of our olfactory sense, in fact of all our special senses, we would gain in diagnostic acumen and be of more benefit to our patients. We of our school, more keen to observe symptoms and minute changes in a patient's condition, and aware of the potential power in the high dilutions, should not fail to keep pace with the times.

E. R. S., JR.

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#### OHIO HAS BEEN MICHIGANIZED

ON June 19th, the trustees of the University of Ohio voted the Homœopathic Medical Department out of existence. At the same time it was resolved to continue two chairs, namely those of Homœopathic Materia Medica and Homœopathic Practice. Speaking for ourselves we regard this action as decidedly more reprehensible than that of the Board of Regents of the University of Michigan, as there are certain fundamental principles at stake, the ignoring of which is a crime against the generous and charitable public.

It is only a few years ago that we received the news that Mr. Kettering, through the good office of Dr. T. A. McCann, of Dayton, Ohio, donated to the endowment fund of the Homœopathic Department, a large block of stock, the market value of which at the time was \$400,000. Later he contributed another large sum for the construction of laboratories. We recall that the significance of the latter gift, in acknowledging a permanent maintenance of the homœopathic school was fully realized by at least one person, who objected to its acceptance by the Trustees. Such being the case, it cannot be said that the latter body can possibly have acted without due knowledge of the propriety of the course they have since pursued. However much we may disapprove of the course of the gentleman to whom reference has been made, we must credit him with the possession of an honesty and candor not possessed by those of the Trustees who first accepted the



gift, and within a few years, proceeded to vote the department for which the gift was intended out of existence.

We hold, as already hinted, that the abolishment of the homœopathic school under the circumstances is a crime against the charitable public. If funds donated in Ohio for a definite purpose are devoted to some other to be hereafter nominated by the Trustees, *e. g.*, the general endowment fund of the University, there is no assurance whatever that other contributions of the past or those of the future may not be diverted in a similar manner. In this particular case there seems to be no reasonable excuse for this act of perfidy. It might readily happen after a term of years some particular branch in the university curriculum may require important modification in the progress of education. Even then, disinterested parties should have the say as to the final disposition of the endowments devoted to the department which has been legislated out of existence. In this particular case, the trustees had an unmistakable warning when the gift was accepted.

If the Trustees are real Trustees fitted to look after the large educational interests over which they preside, if they are fitted to accept money from the generous citizens of Ohio and elsewhere, it is their bounden duty to return said endowments to the donors or consult them or theirs as to the final disposition of the funds. If they do not do so, they will find their action a very expensive proposition to the University of Ohio, for what has been done with the Kettering funds can readily be repeated with others. Thus will the University lose far more than it gains by such questionable action.

There are some homœopathic physicians who honestly believe that homœopathy will best be served by the closing of independent medical schools, and the organization of homœopathic departments in the great universities. We trust that the recent course of events at Ann Arbor and Columbus will convince them of their error.

We opine that the adage that "corporations are soulless" requires some amplification to suit the times.

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#### DR. T. EDWARD COSTAIN

HOMŒOPATHIC organization suffered the loss of one of its most enthusiastic and energetic workers when T. Edward Costain passed to his great reward on May 31st.

When the Board of Trustees, the executive committee and

the membership of the American Institute some six years ago determined to build a better and more business-like organization, Edward Costain was chosen to fill the position of Secretary and Treasurer. During the building of this organization from its foundation to its present state of business efficiency it was Dr. Costain who put into practicable application the suggestions from many sources. To him the organization was the dearest thing in his life, and with such loyal devotion it was easily understood how he soon became cognizant of all the resources of the homœopathic school and recognized upon just whose shoulders should rest the various burdens to the end that the best results would be obtained for the American Institute of Homœopathy.

His sturdy, persistent character, which he had inherited from his English ancestors, undiscouraged despite all obstacles, stood him in good stead in fighting the battle of the Illinois Homœopathic Medical Association of which he was the former President, and the Chicago Society of Anesthetists of which he was the former President, and his duties with the American Institute.

To every problem of homœopathic organization he gave freely of his thought and time, and having arrived at what, after careful analysis, appeared to him to be the proper course of action, he went courageously forward to secure the result, unmindful of criticism, stalwart and earnest in his belief of the truth of the homœopathic cause.

Many of us who were closely associated with him during the past year appreciated the fact that he was applying himself too closely to American Institute affairs, and it was only after much pressure was placed upon him following the Executive Committee Meeting held in Washington in mid-January that he could be persuaded to lay aside temporarily his duties at the institute office. His vacation, however, came too late—he had given too much of himself to the cause of national homœopathy, and when he returned from California, he failed to hold the slight advantage that he had obtained.

Few men have the temperament of Edward Costain—so much in love and enraptured with their work that they are willing to occupy inconspicuous positions, happy in the fact that their cause is successful, despite the fact that others occupy the conspicuous positions and receive the credit. *His life is another sacrifice so that homœopathy may endure.*

ROY UPHAM, *President.*

## GLEANINGS

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### MEDICINE.

Conducted by CLARENCE BARTLETT, M.D.

**LIGATION OF THE LIMBS FOR THE PULMONARY OEDEMA OF ACUTE NEPHRITIS.**—Ehrenberg has in two cases of severe pulmonary oedema, due to acute nephritis, obtained marked relief by constricting all four limbs with rubber tourniquets. This device was recommended in 1910 by Tabora and Tornai on the assumption that by cutting off a considerable quantity of the blood from the general circulation the right heart would be relieved. In the first case recorded by the author this procedure was followed in a couple of minutes by the cessation of a distressing cough and the reduction of the dyspnoea. After ten minutes the attack had completely passed off, and during the remaining weeks of the patient's life there was no recurrence of the pulmonary oedema. In the second case these attacks were frequent, but each of them reacted quickly to the ligature. The author does not profess to give a complete explanation for the results of the treatment, and he points out that the mechanism of acute pulmonary oedema in connection with acute nephritis being very imperfectly understood, it is practically impossible to explain how this treatment acts; but he ventures the guess that its action depends on interference with the distribution of the circulating blood and on strain being taken off the heart. He compares the procedure with venesection, which has also been recommended for pulmonary oedema in strong and well nourished patients, and he notes that though the success of both devices probably depends upon the same factors, the former is to be preferred, as it can be practised in every case irrespective of the patient's general health. Ligation of the limbs is also to be preferred because it can, if necessary, be repeated frequently.—*Deut. Medicin. Wochenschr.*, April 7, 1922.

**IMPENDING AND REAL GANGRENE ASSOCIATED WITH DIABETES: CORRELATION OF MEDICAL AND SURGICAL EFFORT.**—Bernheim, of Baltimore, reports a series of cases which illustrate what may be accomplished by closely allied medical and surgical forces when arrayed against a really dangerous condition. It has been the author's experience to note that physicians tend to handle the surgical complications of diabetes too much by themselves, thereby losing the opportunity for constructive measures. On the other hand he has observed that the surgeon, when once he is consulted, is too prone to disregard the medical phase of the situation in his efforts to overcome the surgical complaint.—*American Journal of the Medical Sciences*, May, 1922. (Bernheim has directed attention to a really important matter. The surgeon to-day, so far as medicine is concerned, has swung to alkaline medication when the advanced physicians decry it in most unqualified terms, and so far as dietetic management is concerned, is satisfied with routine measures for the most part antiquated, and always empirical, with but

little attention to the differentiation of patient's illness. It is also aggravating to the surgeon to find, just as Bernheim states, the medical man treating these patients according to a method which may well be designated as "half-baked" surgery.—C. B.)

**SYPHILITIC BACKACHE.**—Backache is such a common complaint, and is due to so many different causes, that any review of the subject is always possessed of clinical interest. Warren Thompson reports two cases in which the backache was due to syphilitic lesions and summarizes as follows: 1. Backache, as a chief complaint may be due to syphilitic spondylitis, and although the condition is rare, it should be considered as a possibility in every indefinite case of backache. 2. Syphilis may involve any part of the spine; the most frequent location according to the literature is in the cervical vertebrae. 3. The pathology is similar to that of syphilis of the bones elsewhere in the body. The nervous manifestations depend on the part of the vertebral column involved and the extent of the morbid process. 4. Syphilitic spondylitis presents no definite clinical picture, the diagnosis being made chiefly by (a) the Roentgen ray, (b) evidence of syphilis elsewhere in the body, (c) the Wassermann test, and (d) the therapeutic test. —*The American Journal of the Medical Sciences*, July, 1922.

**PANCREATIC EXTRACTS IN THE TREATMENT OF DIABETES MELLITUS.**—Bunting, Best, Collip, Campbell and Fletcher have attempted to demonstrate in pancreatic extracts of an internal secretion capable of acting upon carbohydrate metabolism by first eliminating the digestive enzyme in such extracts. In the first experiments this was done by taking advantage of the fact that acinous tissue degenerates in seven to ten weeks after ligation of the pancreatic ducts leaving the islands of Langerhans. Extracts made with ice-cold Rknger's solution of degenerated pancreatic tissue removed ten weeks after ligation of the ducts, when injected into diabetic dogs invariably caused a marked reduction in blood sugar and in sugar excreted by the urine. The active principle of the extract was destroyed by boiling in neutral or acid solution or by incubating for two hours at body temperature with pancreatic juice. Later a highly potent and readily procurable preparation was obtained by extracting the pancreas of retal salves (of less than five months' development) which did not contain proteolytic enzymes. A method was finally evolved by which an active extract which would retain its potency for at least one month, could be obtained from normal adult ox-pancreas. Daily injections of such extracts prolonged life of a completely diabetic dog to seventy days, at the end of which time the animal was chloroformed. As shown by studies of the respiratory exchange, the extract confers on the diabetic animal the power to burn carbohydrates. Collip took up the work of attempting the isolation of the active principle of the gland. As a result of this investigation, an extract has been prepared from the whole gland which is sterile and highly potent, and which can be administered subcutaneously to the human subject. It is being further purified and concentrated. The effects of these preparations have been observed in seven cases of diabetes mellitus, and they are similar to those observed in depancreatized animals. The fall in the blood sugar occurs and more or less coincidentally with the attainment of normal blood sugar values, there is a rise in the respiratory

quotient. Patients report a complete relief from the subjective symptoms of the disease. Ketonuria is abolished. In the opinion of the authors, such results leave no doubt that in these extracts we have a therapeutic measure of unquestionable value. It has been found that without careful control severe toxic reactions may be encountered and this will undoubtedly be a factor in the evaluation of the ultimate therapeutic utility of the method.—*Canadian Medical Journal*, 1922, No. 12.

**MOSS AGATE TRACHEAL SPUTUM.**—1. Moss agate tracheal sputum is the name given by Chevalier Jackson to a characteristic secretion seen in cases of chronic tracheitis. 2. The characteristics of it are as follows: A gray color; a degree of opalescent translucency; a dark mottling which gives to the sputum an appearance like a gray agate stone; a more or less globular form of the sputum mass; a tough tenacious consistency, sometimes gelatinous; a tendency at times to be projected from the mouth in coughing; a tendency to accumulate in the larynx, whence it is removed by cough or semi-cough; when it accumulates on the cords, it often causes diplophonia by creating temporary nodal points; a scantiness in quantity compared with the sputum of most bronchial and pulmonary diseases. 3. Sometimes cough is required for the expulsion of the moss-agate sputum. It does not in all cases come out through the posterior commissure by ciliary action alone. These instances have been observed to be cases in which there was a scarcity of mucus to facilitate by lubrication the extrusion of the moss-agate sputum. Atrophic mucosal changes were present in some instances. In other cases, the sputum was worked up by the cilia to the posterior commissure, whence it was removed by voluntary effort known as clearing the throat. The author calls it a semi-cough, which is very common among voice abusers and city dwellers. 4. The author formerly thought moss agate sputum was due to soot filtered out of the atmosphere, but changed his mind after discovering the phenomenon in the captain of a sailing vessel. 5. The investigation of Rosenberger shows the mottled granules discoloration to be granules of hemosiderin located in epithelial and endothelial cells scattered through the other microscopically visible elements in the sputum. The tests for occult blood were positive. 6. Moss agate sputum is pathognomonic of tracheitis.—*Pennsylvania Medical Journal*, June, 1922.

## DERMATOLOGY

Conducted by RALPH BERNSTEIN, M.D., F.A.C.P.

**GENERALIZED PEDICULOSIS PUBIS.**—W. Dubreuilh reports infection in a man of 70 which was so marked that the skin of the chin and neck was quite black on account of the number of parasites covering it. These were also found in great numbers in the beard, hair, eyebrows, and on every hairy part of the body. There was moderate pruritus. The patient was rapidly cured with an ointment containing white precipitate of mercury and xylol. The case is remarkable because the patient is an intelligent man, prominent in the social and business worlds, whose condition was entirely unsuspected by himself, his wife and his servant.—*Bull. Soc. franc. de dermat. et syph.*, Paris.

**LICHEN PLANUS IN HUSBAND AND WIFE.**—According to Samuel Feldman, although cases of lichen planus in the same family have been reported, no case histories have been found in which a husband and wife both had the disease. Feldman reports lichen planus in husband and wife, the condition making its appearance in the wife some eight months after her husband first noticed symptoms of the disease. It should be noted the husband was first seen eleven months after the onset of the disease, and the wife three months after her symptoms first appeared. There was a striking similarity in the appearance and distribution of the lesions, and in the course of the disease. There was the same preponderance of mouth lesions, and the same comparative freedom from itching in both patients. Ill health could not be an etiologic factor, as both husband and wife had been enjoying good health, and they appeared robust and well nourished. There was no question of neurosis. Family predisposition is not to be considered, because the two patients were not related by blood. They were born in different parts of the world. Intestinal toxemia as cause for the lichen planus in these patients can be excluded. Taking into consideration that they had been living together in conjugal proximity, it seems feasible to suggest the possibility of an infectious etiology.—*Arch. Dermat. and Syphilol.*, May, 1922.

**IMPETIGO CONTAGIOSA AS SEEN IN SCHOOLS.**—Impetigo contagiosa, known in boarding schools as "scrum-pox," is a highly contagious skin disease, involving chiefly the face and scalp; it may also spread to other parts of the body and to the limbs. According to Simey, the primary infection is apparently streptococcal, but when treatment is sought the infection is a mixed one, with the predominance of staphylococci, chiefly *S. aureus*. In many instances the organism is introduced into an abrasion or laceration; sometimes this is not evident, and careful observation reveals a small pimple capped by a still more tiny vesicle, which enlarges rapidly, giving rise eventually to the characteristic honey-colored lesion. In some instances the infection is inoculated into acne spots from which the top has been scratched, and not infrequently impetiginous and pustular spots coexist side by side. The infection is introduced from without, and a common source which does not receive due recognition is the hair and scalp. Certain individuals and certain ages are no doubt especially predisposed to impetiginous infections. Some individuals suppurate with the least provocation, especially during the damp, sunless months. The disease is to a large extent preventable; regular hot baths with a liberal use of soap and vigorous rubbing with rough towel is a necessary precaution. The response to treatment is very capricious; remedies which suit one patient fail with another. Removal of the crusts and application of dilute nitrate of mercury ointment, if carried out regularly and antiseptically, are usually all that is necessary, but sometimes this remedy fails, and no sooner is one spot cured than another makes its appearance. Early application of iodine (2%) often aborts the development of a spot. Some lesions are best kept undisturbed and dry throughout, while in many cases a most efficacious remedy is the application of a weak fomentation of lysol or boric acid, keeping the part well covered. Constitutional measures, including regular exercise, must not be neglected. The diet should consist of fresh milk, butter, green vegetables and ripe raw fruit. Cod-liver oil and

iron, extract of malt, and aperients containing sulphur are most efficacious drugs in this condition. A short sojourn at the seashore may hasten recovery even in very obstinate cases. A mixed vaccine containing streptococcus and mixed staphylococcus strains, as well as intramuscular injections of colloidal manganese, have been employed with good effect.—*Lancet*, April, 1922.

**PATHOLOGY OF THE DERMATITIS CAUSED BY MEGALOPYGE OPERCULARIS, A TEXAN CATERPILLAR.**—For the last decade, and particularly in 1913 and 1920, according to Nathan Chandler Foot, a small larval moth has been causing dermatitis in Southern Texas, sometimes with such severity that it is necessary to close the schools until the trees can be sprayed. The severity of the sting varies with its location, with the susceptibility of the individual and with the thickness of the skin affected. There is first a painful burning erythema, followed at times by swelling of an entire limb and sometimes by pseudoparalysis. The caterpillar has been identified as the larval form of the moth *Megalopyge opercularis*. The dermatitis caused by contact with it is produced by a poison introduced by the hollow specialized setas of its cuticular tubercles; it is not produced by the ornamental hairs, or by the tissue juices of the animal. The poison appears to be of the nature of a venom, combined with protein vehicles, and may be itself a protein. It is rendered inert by boiling, or by heating to 55 degrees C. for a considerable period of time. It is apparently stored in sacs at the base of the setas, but whether secreted there, or by hypodermal glands, has not yet been determined. It diminishes in virulence after the larva has spun its cocoon, and is no longer active after the caterpillar is dead. The poisonous spines cause localized necrosis of the human epidermis, followed by the formation of small vesicles. The cellular reaction to the poison is chiefly lymphocytic.—*Journ. Exper. Med.*, May, 1922.

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#### SURGERY

Conducted by J. D. ELLIOTT, M.D.

**THE TREATMENT OF TETANUS.**—During the interval between March 22, 1916, and December 7, 1921, Stone states, forty-nine patients with tetanus were admitted to the Los Angeles County Hospital. During this interval there were 74,393 total admissions, or one admission for tetanus to 1,518 admissions for all other causes. Twenty-six deaths occurred, or a mortality of 53 per cent. An analysis has been made of the records of these forty-nine patients in the hope that certain deductions may be made as to existing methods of treatment.

The summary of these forty-nine cases is: 1. The most important factor in the treatment of tetanus is its prevention. It should be the universal rule to give a prophylactic dose of 1,500 units of antitoxin to all patients who have received lacerated or penetrating wounds. If the wound contains necrotic tissue or a suspected foreign body, the dose should be repeated in ten days and subsequently if operation on the wound is contemplated. 2. Treatment of all extensive lacerated wounds surgically by primary excision and primary or delayed suture will greatly reduce the incidence of the disease. 3. The incubation period of the disease is usually

about ten days, but may be as short as three days. So-called tardy tetanus may occur months after an injury, if the wound is subsequently reopened. 4. The shorter the incubation period before symptoms, the greater will be the probable mortality. But little difference occurs in mortality whether the wound focus involves the lower or upper extremity. 5. The type of infection appears to vary in virulence in different years. In four different years between 1916 and 1921, the mortality varied from 14.3 to 71 per cent. in a comparable number of patients each year, and with the same general plan of treatment. 6. When symptoms of the disease have appeared, the attempt should be made to saturate the patient with antitoxin before fixation of toxin has occurred in the nerve cells of the spinal cord. This can best be accomplished by intraspinal and intravenous injections during the first three days of treatment; the total dosage, of which half should be given intraspinally, should approximate 125,000 units.—*The Journal of the Amer. Med. Ass'n.*, June 24, 1922.

**TUMORS OF THE BREAST.**—Peck and White have reviewed the findings in 331 breast tumors, the majority of these cases having occurred in the Second Surgical Division of Roosevelt Hospital. 136 were benign and 195 malignant tumors and their study of the former have led them to believe that benign tumors or cysts can be definitely diagnosed at the operating table in a high percentage of cases and should be treated by conservative surgical procedures. Mutilating radical operations for such conditions are unnecessary and are a confession of ignorance or timidity on the part of the surgeon. A trained pathologist should be present at the operating table to assist the surgeon in determining at once the nature of the pathologic process. Cysts of the blue-domed type and localized and generalized chronic mastitis are neither malignant nor precancerous conditions and should not be so considered. Non-encapsulated tumors of the adenomatous type form a borderline group. They are by no means always precancerous lesions and in younger women radical operations should be avoided if possible. In older patients, and when the amount of breast tissue involved is considerable, radical operation may be indicated. Multiple primary tumors or cysts are rarely malignant. Possible exceptions to this rule, e. g., a carcinoma developing in a breast already the seat of a benign tumor, have not been observed in this series. This rule does not apply to advanced cases of carcinoma with outlying nodules which are really secondary deposits. Conservative operations should, when possible, preserve the contour of the breast, and incisions should be so placed as to leave an inconspicuous cicatrix. The curved incision at the lower border (Warren) best meets this requirement. Carcinoma later developed in two of these patients, but in both cases the primary operations had been of the complete radical type.—*Annals of Surgery*, June, 1922.

**EXTRACRANIAL ANEURISM OF THE INTERNAL CAROTID.**—Winslow reports an aneurism of the internal carotid, not on account of the rarity of this lesion, but because of the danger of mistaking it for a tonsillar abscess. Such a mistake has been made more than once and these mistakes have frequently resulted in rapid fatalities. The author has succeeded in collecting 69 cases in addition to the one he details.

From the data he finds that aneurism of the cervical portion of the



internal carotid artery is not as infrequent as supposed. Before incising a unilateral lump in the neighborhood of the tonsil, especially if of long standing, look, feel, listen. Spontaneous cure may occur, but the usual termination in untreated cases is death from rupture into the fauces. The operation of choice is occlusion of the internal carotid proximal to the sac. If this be impossible then ligation of the common carotid artery, together with a ligation of the external carotid, between its origin and first branch. If the external carotid be tied distally to a branch, that branch must likewise be occluded. After ligation the prognosis is fair both as regards operative recovery and permanent cure. Aneurism in other localities is far more prevalent in the male than in the female; in the internal carotid it occurs in almost an equal ratio in the two sexes, being slightly more prevalent in the male if all types are considered, but much more frequent in the female in the spontaneous variety.—*Annals of Surgery*, June, 1922.

**THE SURGICAL TREATMENT OF GASTRIC AND DUODENAL ULCER.**—Horsley and Vaughan state that it is evident that stereotyped procedures have no place in the treatment of gastric and duodenal ulcer. Each case must be considered on its own merits. That there are early ulcers which can be successfully treated medically, no experienced internist or surgeon will deny. But because of this fact, one should not blindly endeavor to treat all ulcers solely by medical methods. As well attempt to cure an indolent ulcer of the leg by rest and elevation for twelve months or longer, when the same results can be more effectively accomplished in twelve days by the proper surgical procedure. There has been a tendency among internists to treat gastric ulcers only by medical methods, and among surgeons always to operate. The best interests of the patient require closer co-operation between surgeon and internist than has hitherto been the vogue. If it has been decided that a case should be treated surgically, the method best fitted to the condition found at operation should be chosen. Routine gastro-enterostomy in all ulcer cases will give as unsatisfactory eventual results as routine pyloroplasty. It is an unsuccessful workman who tries to accomplish all of his work with but one tool or method. Three conditions in which a gastro-enterostomy are preferable to pyloroplasty are: (1) When there is an extensive stenosis, so that most of the normal tissue near the pylorus has been destroyed; (2) when there is a large ulcer in the first portion of the duodenum or in the pyloric end of the stomach, accompanied by extensive leucocytic infiltration, and especially if there is a subacute perforation; and (3) when adhesions are very extensive, especially with only slight disease of the gall-bladder.

Pyloroplasty is clearly indicated in pyloric or duodenal ulcer when the pylorus is open and there are no adhesions. Acute perforations of small ulcers are similarly treated. This restores the stomach as nearly as possible to its normal physiologic condition. Also, when there is but little injury to the structures of the stomach or duodenum, as in a narrow stenosis, pyloroplasty is indicated. When the diseased condition of the stomach or duodenum is well localized, and can be completely extirpated or corrected without serious harm to the anatomy or function of the tissues, it would be as unwise to perform a gastro-enterostomy as it would be to amputate for a comparatively slight lesion of the leg. Moreover, it is in

this type of case, in which the pylorus is open, that gastro-enterostomy gives the worst results. If we can extirpate the lesion and still find the organs from which it is removed in excellent condition, we should obviously reconstruct the tissues in as nearly normal condition as possible and this is best done by a pyloroplasty.

Whenever an operation for gastric ulcer is performed, whether by a "sleeve" or a V-shaped resection, a pyloroplasty should be done. This is necessary for the same reason that makes it wise to paralyze the sphincter and when ulcers of the rectum are excised. The pyloric sphincter offers an increased resistance because of the irritation, and the stomach muscles, being weakened by the operation, can hardly overcome even the normal resistance. Therefore the pyloroplasty, which puts out of commission temporarily the muscular resistance of the pylorus, makes it possible for the injured stomach to empty its contents with a minimum exertion.—*The Journal of the Amer. Med. Ass'n.*, May 6, 1922.

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#### ROENTGENOLOGY

Conducted by WALTER C. BARKER, M.D.

**PELVIORADIOGRAPHY AFTER FABRE'S METHOD.**—Bell in his article publishes the translation of a paper on a method of pelvimetry and reports a case giving the technic of the method. The advantages of pelviography are that the process is painless, it may be made during pregnancy and it gives very exact results. This method is of value in examining women before marriage, where there are skeletal defects, and also during pregnancy to determine whether delivery is possible or not through the pelvis. The measurements are made by an adjustable wooden frame which goes around the patient's body and contains a layer of lead containing notches one cm. apart. Two lines are drawn across the body; one anteriorly, at one cm. below the symphysis pubis, and another posteriorly, four cms. above the dimples of the rhomboid of Michaelis. The frame is then slipped over the body of the patient, one edge corresponding to the anterior line and the other edge to the posterior line. The patient lies prone upon a cassette containing the film. The tube is placed at a distance of fifty cms. above the table, and downward toward the feet, fifty cms. from the symphysis pubis. The tube is then tilted, so that the central ray will enter the central point of the pelvic outlet and pass through the central point of the pelvic inlet. Because the frame and the inlet of the pelvis are in the same plane, the projection of the notches of the lead plate will be distorted in the same proportion as the bony pelvis. Therefore, to make the measurements of the pelvis, the lead points on opposite sides are connected by lines, and each one of the squares so formed, corresponds to one cm. The length of the diameters is computed by counting the number of divisions, each being counted as one cm.—(*American Journ. of Obstetrics and Gynecology.*) (The disadvantage of this procedure is that plates 17 x 22 inches are required to accommodate the projection of the frame and most American laboratories are not equipped to handle plates larger than 14 x 17. W. C. B.)

**PERTH'S DISEASE, CLINICAL ASPECT, REPORT AND STUDY OF A CASE.**—In reviewing the nomenclature, Stroud thinks the name Perth's disease is less confusing than those which attempt to describe the condition. Perth calls the disease Osteochondritis Deformans Juvenilis. Legg considers the disease due to trauma and terms it Osteochondral Trophopathy of the Hip-joint. Calve calls it Coxa Plana and Zaaier describes the condition as due to defective ossification and calls it Parosteogenetic Juvenile Osteochondropathy. The three theories of the etiology are considered. There are Legg's traumatic origin, Blanchard's nutritional disturbances and Frieberg's theory of infection. In spite of Legg's seventeen points, the author states that the diagnosis is made upon the roentgenographic findings, and the characteristics are flattening of the epiphysis, thickening and shortening of the neck of the femur and small areas of increased density near the periphery which are condensation of the bony structure due to compression. In the case of tuberculosis of the hip, there is a thin appearance of the bony structure due to atrophic changes, no areas of condensed bone and possible involvement of the acetabulum. In arthritis deformans, there are true osteophytes or excrescences of bone which will not be confused with the islands of increased density. There is also a general increase in the density of the bony structure. The case reported had an abscess of the hip which was independent of the bony changes. The author concludes that all cases with a limp and pain referred to the knee joint should have the hip examined roentgenographically to differentiate between tuberculosis and Perth's disease.—*Southwestern Medicine*, June, 1922.

**ROENTGEN RAYS AND RADIUM IN THE DIAGNOSIS AND TREATMENT OF CARCINOMA OF THE PROSTATE.**—Bumpus states that many of the favorable results reported in the treatment of carcinoma of the prostate by radium, were due to reporting the case too soon after the treatment or to errors in diagnosis. In a series of six hundred and forty-six cases, one hundred and forty-six were operated, three hundred and twenty-five received no treatment and one hundred and ninety-seven were treated by radium. Of the group operated upon, eighty per cent. died within two years, sixteen patients lived three years and seven over four years. Of the untreated group, the average time between the appearance of the first symptoms and death was 32.82 months or 9.58 months after their examination. Of the cases examined by the Roentgen ray, one third were found to have metastasis. Of these, thirty-seven per cent. were found in the bones of the pelvis, thirty-five per cent. in the spine, three per cent. in the lungs, five per cent. in the ribs and six per cent. in the femur. When the lungs were involved, there were also metastases found in the bones.

Phemister states that metastasis in the bony structure assumes the characteristics of the primary growth. Thus if the stroma predominates, a condensing or osteoplastic form of metastasis will be found, while if the primary cancer is of the medullary form, the secondary growth will be of the rarifying or osteoplastic process. Since the majority of carcinomata of the prostate are of the stroma variety, the bone metastasis should be of the condensing variety. The type of malignant prostate in which there is no acinus formation, do not have the characteristic hard nodular outline and may be confused with inflammatory hypertrophy of the gland.

These cases form metastases early and the pain from the spinal involvement may be present before the urinary symptoms. When the osteoplastic involvement is found in the spine, it must be differentiated from Paget's disease. In Paget's disease, the bodies of the lumbar vertebrae are flattened and appear increased in width, while in metastasis, the outline of the vertebrae is not altered. Carman and Carrick state that in doubtful cases, the skull should be rayed and the characteristic thickening and increases of density of the inner plate will be found in Paget's disease.

Tables are presented showing the results of the radium according to the technic used. Only patients without metastasis are treated. In the untreated group without metastasis, the average duration of life from the first appearance of the symptoms, is three years, and from the time of examination, eleven months. These figures are used as a basis for comparison. The group treated by radium through the urethra and the rectum had an average duration of life of forty-four months from the first appearance of the symptoms and of eighteen months after the examination.

Those treated by needles introduced into the gland, had a duration of life of thirty-nine months, and of eleven months after the treatment was started.

The time is not sufficiently long since the treatment by combining the two methods of technic, that is, the needles and periphery application of the radium, to make a fair comparison, as fifty-four per cent. of the cases heard from are still living. The figures show averages of thirty-four months duration of the disease and 12.76 months after treatments. When both methods are combined, there seems to be some encouragement from the improvement in the results.

In the microscopical examination of prostates removed after radium therapy, there is hyaline degeneration, marked proliferation of fibrous tissue, cell degeneration, and the activity of the cells is lessened as is shown by changes in the mitotic figures but there are still areas which are not affected.

While the total group treated by radium shows only increase in the duration of life of two and one-half months more than the untreated group without metastasis, however, the author is encouraged by the results of the combined methods of treatment and thinks that with the use of nerve blocking by sacral anaesthesia, the technic can be improved and the prostate more thoroughly irradiated so as to include all of the cancer cells and then better results will follow.—*Amer. Journ. of Roentg.*, May, 1922.

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#### OPHTHALMOLOGY.

Conducted by WM. M. HILLEGAS, M.D.

**TOXIC AMBLYOPIA.**—G. E. deSchweinitz, (*Amer. Jour. of Ophthal.*, May, 1922) reports in detail four cases of toxic amblyopia, with gradual restoration of vision in all the cases. He laid particular stress on central scotomata for colors, and emphasized the importance of perimetric examination, especially of the central area of the field in all cases of disturbed and failing vision. He also referred to the fact that occasionally the onset of tobacco amblyopia is postponed until quite late in life, when

the subject, although a steady smoker, is not an excessive one. He discussed the possibility that intestinal toxins elaborated from gastrointestinal catarrh caused by the abuse of alcohol and tobacco might bear a greater responsibility in creating these amblyopias than either the alcohol or tobacco itself, and emphasized the importance of treatment of the gastrointestinal tract in all cases of toxic amblyopia.

**NEOSALVARSAN FOR TOXIC AMBLYOPIA.**—Suker, of Chicago (*Amer. Jour. of Ophthal.*, May, 1922), reports three cases treated with neosalvarsan with improvement in each case. These cases all had negative Wassermanns, and had been treated previously with potassium iodide with no results. The beneficial results in these cases he thought were due to two factors. First, the relief of pressure by repeated spinal punctures; second, the seemingly chemical antidote of the arsenic and its action as a nerve stimulant.

**SYMPATHETIC OPHTHALMIA.**—Vail of Cincinnati, (*Archives of Ophthal.*, May, 1922), feels that this condition is so insidious and silent in its onset, its progress so steadily onward, and the results of treatment so disappointing in the majority of cases, and the prognosis from the start so bad, that cured cases when encountered should be reported and tabulated. He reports in full two cases in which complete cures were accomplished. To offset criticism of faulty diagnosis, he formulates certain definite clinical findings which he feels must invariably be present to establish a correct diagnosis, as follows:

1. A penetrating injury of one eyeball (which might be an incision for the performance of cataract extraction or iridectomy as well as an accidental injury), followed by a lack of healing response, which is manifested by a quiet iritis with the formation of posterior synechia and absence of severe pain in the injured eye.

2. The presence of systemic anaemia. (This term he uses to express a systemic impression that is invariably present in this disease, characterized by pallor and adynamia.)

3. The appearance in the fellow eye of the following: (these sympathizing symptoms rarely appearing in the second eye before the seventh and usually after the tenth day following the traumatism) (a) Quiet iritis with rapidly forming circular synechia, (b) Plastic optic neuritis and retinitis, and (c) Minus tension.

Case 1. The injured eye was not enucleated until four months after the injury, sympathetic ophthalmia having appeared, diagnosed by the clinical trial together with slight subjective symptoms of transitory attacks of shadows. The treatment in this case in addition to large doses of salicylate of sodium, purging and rest consisted in the administration of salvarsan in 0.15 gram doses, notwithstanding a negative Wassermann. He feels that the arsenic in the salvarsan cured this case by combating the anaemia.

Case 2. Three months after an iridectomy for fulminating glaucoma, sympathetic ophthalmia developed in the other eye. In this case intravenous injections of citrate of iron were given in addition to the salicylate of sodium for a secondary anaemia, with perfect cure as a result.

**PNEUMOCOCCUS CONJUNCTIVITIS.**—Seefelder, (*Ophthal. Liter.*, March, 1922), describes an epidemic of this disease. From a study of the con-

dition he concludes that it may be described as a benign affection. Still severe complications could not be prevented in all cases. With optochin a complete recovery was not obtained, and it was not possible to obtain a sterile sac, notwithstanding that it was found (with Lindner) that the pneumococcus was present but specifically only in the beginning. The resistance to chemical remedies rests upon other biologic qualities of the virus, so that notwithstanding every precaution, the disease spread. The protracted course of the disease, despite all treatment, was noteworthy. (In this country, optochin has been almost a specific in its curative results in pneumococcus conjunctivitis).

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#### UROLOGY.

Conducted by LEON T. ASHCRAFT, M.D.

**MISTAKING AN ACUTE PYELITIS FOR ACUTE APPENDICITIS.**—Close observation of more than seventy-five cases of pyelitis and ureteral stricture has convinced Baker not only of their frequent occurrence, but also, by reason of the close mimicry of other lesions, of the fruitlessness of many abdominal operations undertaken for their relief. In an analytical study made of fifty cases of pyelitis and ureteral stricture, it was found that seven patients had been operated on during an acute exacerbation for acute appendicitis. The pathology present in the appendix and the remainder of the peritoneal cavity in no way accounted for the acuteness of the clinical symptoms; later post-operative studies revealed the true condition to be in the ureter and kidney pelvis. The similarity of the symptoms presented by an acute pyelitis or stricture to those of an acute appendicitis is striking. Yet by carefully considering, always, the possibility of the retro-peritoneal lesion, and by insisting on such a study of the upper urinary tract as the urgency of the case will justify, Baker says, the operator will, sooner or later, spare himself both chagrin and embarrassment.

This is a timely article and the subject should be given a great deal of very serious consideration. It is within the experience of every surgeon that these diagnostic errors occur too frequently.—*Jour. Amer. Med. Assn.*, Vol. 78, No. 19.

**LESIONS OF THE DEEP URETHRA IN THE COURSE OF VARICOCELE WITH GENITAL SYMPTOMS.**—Louis Phillip of Lyons says the genital symptoms of varicocele are all the more annoying because they are not influenced by operation. The symptomatology resembles that of lesions in persons affected with lesions of the deep urethra. He has examined five cases of the kind, eliminating those with very large varicoceles and those with old urethritis. Of these five patients, four had lesions situated in the prostatic fossa and the verumontanum; the fifth had nothing. His impotence was psychic.

These phenomena are due to congestion of the deep urethra depressing the sexual excitation. Endoscopic treatment gives good results in these cases.

It is important to examine the deep urethra of patients with varicocele who also suffer from impotence. If there are lesions they should be treated. If the urethra is free from lesions, the surgical prognosis should be guarded.—*The Urologic and Cutaneous Review*, April 1922.

**TWO CASES OF ORCHITIS.**—Heitz-Boyer has observed two cases of orchitis probably due to the *B. coli* associated with a latent entero-renal syndrome. The orchitis seemed to be the original trouble, and was mistaken for tuberculous orchitis. The presence of pus and the colon bacillus in the urine led Heitz-Boyer to think of the possibility of an original colon bacillus infection with involvement of the epididymis, an opinion which was confirmed by the clinical course of the disease, and by examination in the other case. Both cases presented intestinal symptoms very definitely.—*The Urologic and Cutaneous Review*, April, 1922.

**PYELOGRAPHY FOR THE PURPOSE OF LOCATING VERY SMALL CONCRETIONS IN THE KIDNEY.**—Blum says there is no surgeon who does work upon the kidney who has not come across cases in which the finding of very small concretions revealed by X-ray pictures offered the greatest difficulty. Even after acupunctures and careful probing of the kidney pelvis from a pyelotomy, even after splitting open of the kidney in its whole extent, it may easily happen that one fails to find a stone which lies imbedded in a calyx. For just such cases pyelography represents a most useful and simple means surpassed by none for locating the stone exactly, as the author's more recent experience has convinced him. If the X-ray plate shows a shadow in the kidney region, a small quantity of an 8 per cent. iodide of potassium solution is injected into the pelvis of the kidney, and it is then possible with X-ray pictures to determine whether the stone is situated in the pelvis of the kidney or in the parenchyma.

In practically all surgical diseases of the kidney a pyelogram is necessary. The location of a stone is exactly determined in this manner. A beginning hydronephrosis is ascertained. A pyelogram is always necessary to verify diagnosis of renal tumor. But expert interpretation of the plates is a prime necessity in all these cases.—*Zeitschrift für Urologische Chirurgie*.

**ASCENDING INFECTION OF THE KIDNEY.**—Evidence is furnished by Walker, which he claims is conclusive, that the lymphatic route of infection must invariably be taken into account in considering the pathology of any renal infection. The kidney capsule is an important link in this lymphatic chain, and is the situation in which organisms are most consistently found in cases of ascending infection. In early cases of lymphatic infections of the kidney no organisms are found in the urine. There are reasons to believe that a tuberculous infection of the kidney may take place along a route precisely similar to that followed by pyogenic organisms. These conclusions lay stress on the importance of dealing with any form of infection, however trivial it may appear and they raise the question as to whether decapsulation might not occasionally be beneficial as a means of dealing with ascending infections. They suggest the possibility that repeated infection of the renal capsule may explain the origin of certain forms of chronic nephritis, and that decapsulation might not be without effect on the progress of such a condition.—*Jour. Amer. Med. Assn.*, Vol. 78, No. 19.







*William Bachtel.*

*President of the Homoeopathic Medical Society of the State of Pennsylvania, 1922.*

# THE HAHNEMANNIAN MONTHLY.

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SEPTEMBER, 1922

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## THE ACUTE ABDOMEN IN CHILDHOOD

BY JOSEPH H. FOBES, M.D., F.A.C.S., NEW YORK CITY

(Read before the Homœopathic Medical Society of the County of New York.)

THE term "Acute Abdomen" includes both the surgical and medical condition. It is not a good term; it would be much better to speak of a condition as a Surgical Abdomen or a Medical Abdomen. Even these terms, especially on the surgical side, are dangerous, for they may lead to indiscriminate operating without making every effort within reason to obtain a correct diagnosis.

In infants and younger children the diagnostician is dependent almost entirely upon the physical signs and the laboratory findings. Occasionally the history given by an older person may be of some help in the case. Tenderness is of the greatest value, and I am presenting to you a chart in which the tenderness touch diagnosis in the abdominal region is emphasized.

On chart (1) anteriorly we find a point located at the juncture of a line from the ensiform to the anterior superior spine and from the cartilage of the ninth rib to the umbilicus. Percussion tenderness in this region points towards gall-bladder disease.

It is fortunate that many of the serious abdominal conditions of the adult do not occur in childhood. The gall-bladder pain is one of them. We also find chronic gastric ulcers, carcinoma of the stomach, the gastric crises in tabes, the movable kidney, perforation of gastric, duodenal and typhoid ulcers, and acute pancreatitis are rare.

The point of tenderness in the appendical region is located one-third of the distance from the anterior superior spine to the umbilicus. On the chart we also show you the Morris points located one-third of the distance from the umbilicus to the anterior superior spine. These points are supposed to locate pelvic trouble. Below you see marks showing the presence of the ovaries and uterus and the bladder where pressure may give pain in conditions of these organs.

Cases of gonorrheal peritonitis in the child from vulvovaginitis are almost unknown. Occasionally in young children an ovary may twist or an ovarian cyst may cause serious abdominal symptoms.

Looking at the abdomen from the back we find two conditions which frequently must be differentiated. I refer to the inflammation of the kidney or pyelitis and pneumonia of the lower lobes. Tenderness is noted at the costo-vertebral angle in pyelitis. The physical signs of pneumonia, while they may be slow in coming to the point, are heard as rales of the crepitant variety.

The acute abdomen in childhood is almost always due to conditions arising in the hollow peristaltic viscera, therefore, they all present symptoms and are parts of that condition called intestinal obstruction.

According to the chart (3) the subject is divided into three parts: The Surgical Abdomen, Medical Abdomen and Border Line Cases. Pyloric stenosis produces obstruction, but it is so chronic in its nature, presenting a mass at the pyloric end of the stomach that it hardly can be called an acute condition; therefore, it really should be considered a medical condition until the pediatricist decides that surgery is indicated. Intussusception occurs almost invariably in children. It is characterized by rather acute symptoms, and the diagnosis is made upon the sausage-shaped mass, usually in the ileal region and the peculiar discharge following the finger after rectal examination. This consists of a reddish green or gray mucus with little or no fecal matter.

The most remarkable case of intussusception is one reported by Dr. W. H. Bishop in 1901 at Flower Hospital, in which I had the pleasure of assisting him. This was intussusception of the appendix, which finally appeared at the anal orifice turned inside out, and was removed by him at that

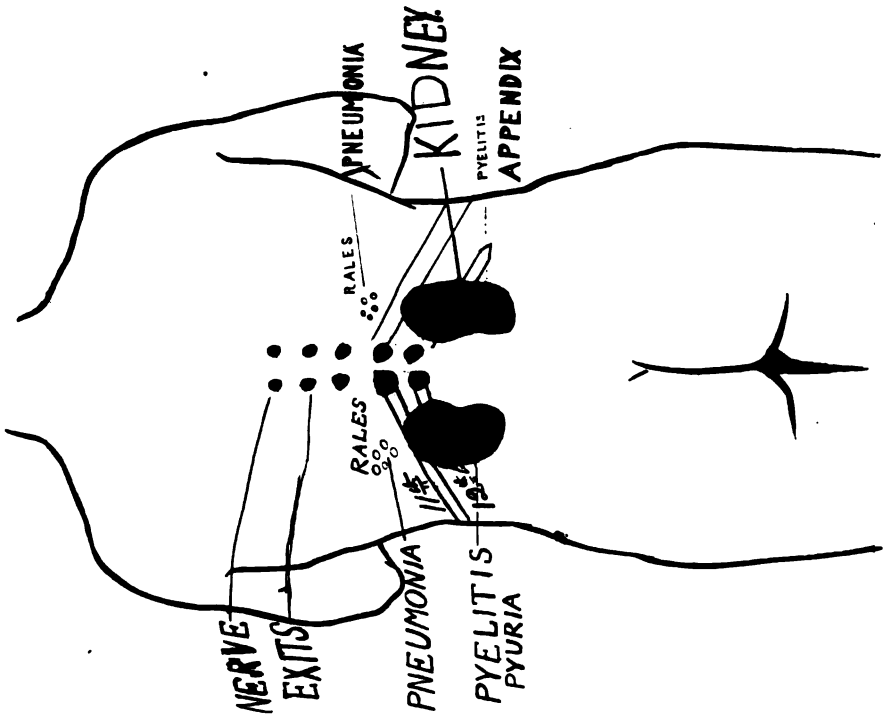


CHART 2.

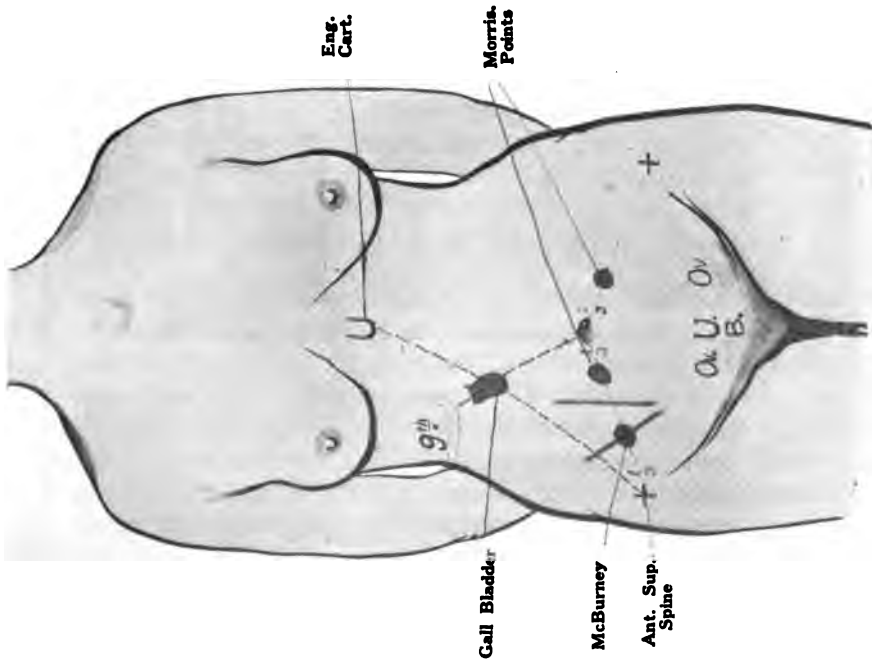


CHART 1.

## ACUTE ABDOMEN IN CHILDHOOD

1. HISTORY OF LITTLE VALUE
2. TOUCH TENDERNESS—GREAT VALUE—RIGIDITY
3. LABORATORY DATA—SOME VALUE

### A—SURGICAL ABDOMEN

#### *Intestinal Obstruction*

1. PYLORIC STENOSIS—NOT SO ACUTE
2. INTUSSUSCEPTION — SAUSAGE — RED GRAY GREEN JELLY—NO FECES
3. VOLVULUS
4. MECKEL'S DIVERTICULUM
5. TIGHT ANAL SPHINCTER—PASS LITTLE FINGER
6. HERNIA—INTERNAL AND EXTERNAL—STRANGULATED
7. APPENDICITIS—RECTAL EXAMINATION—TENDERNESS—RIGIDITY.
8. T. B. PERITONITIS—PLASTIC ADHESIONS
9. DISTENDED BLADDER
10. TUMORS—SARCOMATA—USUALLY KIDNEY & SPLEEN
11. RETRO-PERITONEAL (POTT'S) & MESENTERIC GLAND INFECTIONS
12. FOREIGN BODIES

### B—MEDICAL ABDOMEN

1. GREEN APPLE COLIC
2. PNEUMONIA—X-RAY—PHYSICAL SIGNS
3. PYELITIS—URINARY ANALYSIS—COSTO-VERT. TENDERNESS—STONE
4. PERICARDITIS
5. THROAT INFECTIONS WITH PERITONITIS—MEASLES

### CONDITIONS RARELY FOUND IN CHILDHOOD

1. PERFORATED—GASTRIC AND INTESTINAL—ULCERS
2. CARCINOMA
3. GALL-STONES
4. GASTRIC CRISIS OF TABES
5. ACUTE PANCREATITIS
6. MESENTERIC THROMBOSIS

### BORDER LINE CASES

1. PNEUMONIA—X-RAY—PHYSICAL SIGNS
2. PYELITIS — COSTO-VERTEBRAL TENDERNESS — URINALYSIS
3. APPENDICITIS—MCMURNEY AND RECTAL TENDERNESS AND RIGIDITY

point. Then through an abdominal incision the bowel was milked back and stitched in proper position.

Volvulus or a twist of at least 15 per cent. on the mesenteric axis of the bowel produces suddenly the symptoms of acute intestinal obstruction, obstipation, the usual symptoms of increased peristalsis, followed by vomiting fecal matter and paralysis. It does not occur as often in children as does intussusception.

Hernia, internal or external, is a frequent cause of intestinal obstruction. The external rings and the umbilicus should be carefully palpated in every case of acute abdomen. One case referred by Dr. Thomas, Baby H., presented an acute appendix in a strangulated right inguinal hernia. This was typical of some of the cases in which we find this condition.

Internal herniae present an extremely interesting condition. They are almost always congenital and may be retro-peritoneal, diaphragmatic, meso-colic or meso-gastric. One interesting case of acute abdomen presented a history as follows:

The patient, Charles B., age 12, presented himself for treatment on February 20, 1912. The history shows little of interest except a tendency to gastralgia after meals relieved by bending forward, accompanied at times by vomiting. The family noted this from the age of three months. As a boy he had scarlet fever and measles. In December, after a week of gastro-intestinal disturbance, acute in character, a laparotomy for "abscess" in the left lumbar region was performed, and drainage instituted for a week or more. Gastric distress was not alleviated, although the wound healed well. Upon examination, the general appearance was that of malnutrition; heart and lungs were normal. The abdomen appeared rotund and distended generally, and this, with the symptoms of partial but rapidly increasing intestinal obstruction, led me to diagnose obstruction from adhesions. On February 24, 1912, the abdomen was opened elliptically about the former left linea semilunares incision and a few omental adhesions clamped and cut. The intestines presented generalized tabes mesenterica with few glandular involvements. Upon search for a focus the appendix was found normal and removed. Upon further examination the duodenum was noted twisted on itself very tightly around a peritoneal ligament, and passed up-

ward, accompanied by the jejunum, behind the stomach and downward through the foramen of Winslow.

Upon further examination, it became possible to entirely reduce distal end of duodenum, jejunum, ileum, ascending colon and part of transverse colon, through this adventitious opening, by traction. The opening was then partly closed and the abdominal wound was sutured. After a somewhat stormy convalescence the patient recovered and is now in excellent health. He is employed in heavy work in a garage and is a normal, healthy young man.

The accompanying charts show: First, the normal rotation and descent of the large intestine, crossing in front of the stomach. Second, the completion of this movement in foetal life. The third and fourth depict the abnormal crossing behind the stomach through its mesentery, bringing about the peculiar displacement and constriction of the duodenum.

In the dissecting room this hernia was reproduced on the adult by enlarging the duodenal opening in the meso-colon and by loosening the attachments of the ascending colon.

Meckel's Diverticulum is responsible for some of the cases of obstruction and characterized by feeling of the tumor mass. A tight anal sphincter in childhood may cause serious abdominal symptoms, but the dilation by the little finger frequently relieves the acute pain.

The subject of appendicitis has been so exhaustively studied that I can do little more than emphasize the value of the rectal examination and of the symptoms of tenderness and rigidity. Rectal examination with the little finger will detect an acute appendix which cannot be found by anterior abdominal examination.

T. B. peritonitis is fairly common in children. Except, however, in the plastic type with adhesions it rarely causes an acute abdomen. Then it produces symptoms similar to that of intestinal obstruction from adhesions. It is remarkable that visceral adhesions can be so extensive without producing symptoms, whereas adhesions of viscera to the anterior wall will cause severe pain.

Do not forget that it is necessary to examine for a distention of the bladder in cases of acute abdominal pain.

Extrinsic tumors cause intestinal obstruction by pressure. They are usually sarcomata and arise from the kidney and the spleen. Intrinsic intestinal tumors are somewhat rare in

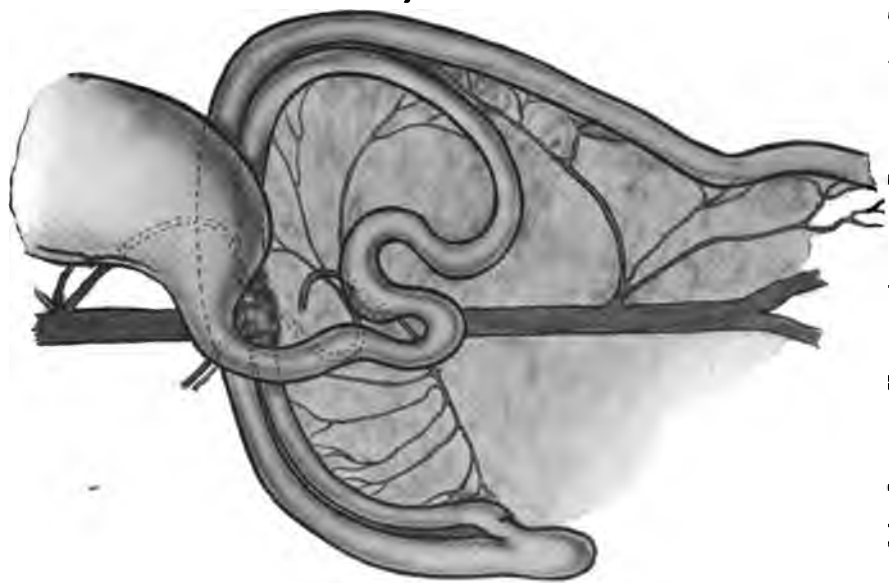


PLATE 1 A.—INTERNAL HERNIA. ABNORMAL ROTATION. 1ST STAGE.

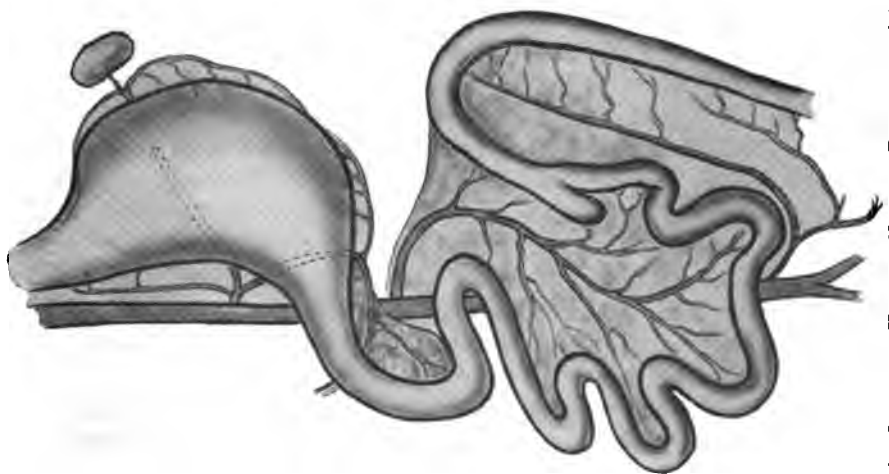


PLATE 1.—INTERNAL HERNIA. NORMAL ROTATION. 1ST STAGE.



childhood and usually produce chronic intestinal symptoms rather than acute.

Retro-peritoneal (Potts') and mesenteric gland infection are puzzling conditions sometimes. Of course, the Potts' disease may present kyphosis and the X-ray in any event will show diseases of the bodies of the vertebrae; but some of the obscure mesenteric gland infections not due to T. B. may produce abscesses, simulating appendicitis in character.

Foreign bodies sometimes cause obstructions and the acute abdominal conditions. The history is of some value here, but it is wise to remember that anything which passes the cardiac orifice in the stomach, unless it has sharp hooks to catch, will pass through the rest of the intestinal tract without trouble.

Dr. Benson is to take up the discussion of the Medical Abdomen. I will briefly mention those that are sometimes recognized: Green apple colic, pneumonia, pyelitis pericarditis, and the acute catarrhal condition with peritonitis, such as we find in measles. These cases are very interesting, and I feel the surgeon must be warned to keep hands off until he is sure of the surgical condition. However, common sense and a thorough physical examination must have the precedence in determining the advisability of operation. To bring out this point: A case of scarlet fever was complicated by appendicitis in which there was not a question about the presence of an abscessed appendix.

CONDITIONS RARELY FOUND IN CHILDHOOD.—Perforated gastric and intestinal ulcers, carcinoma, gall-stones, gastric crises, acute pancreatitis, mesenteric thrombosis.

The Border Line cases and the Diagnosis I hope will be discussed in full by Dr. Roberts. His watchful waiting in some instances has been a great help to all of us. They consist of pneumonia, in which the X-ray and the physical findings are most important. Pyelitis, in which the costo-vertebral tenderness and the urinalysis have been useful and the appendix cases in which the rectal and abdominal tenderness and abdominal rigidity are the prominent symptoms.

The following case illustrates the point: Joseph M., Metropolitan Hospital, No. 1040, entered the hospital January 1, 1922, 11 P. M. Diagnosis on admission, lobar pneumonia. One of the associates on the service shortly afterwards saw the case, and thought it was acute appendicitis.

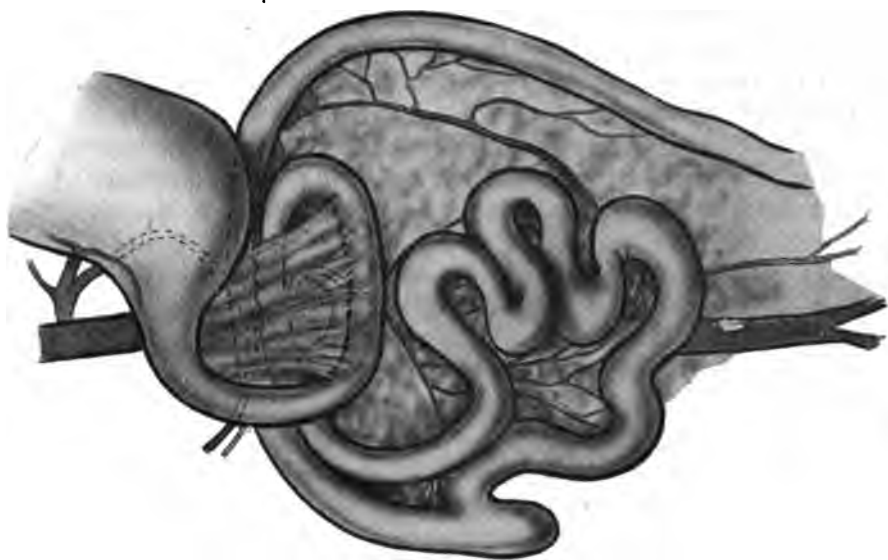


PLATE 2 A.—INTERNAL HERNIA. ABNORMAL ROTATION.  
2ND STAGE. DUODENAL OBSTRUCTION.

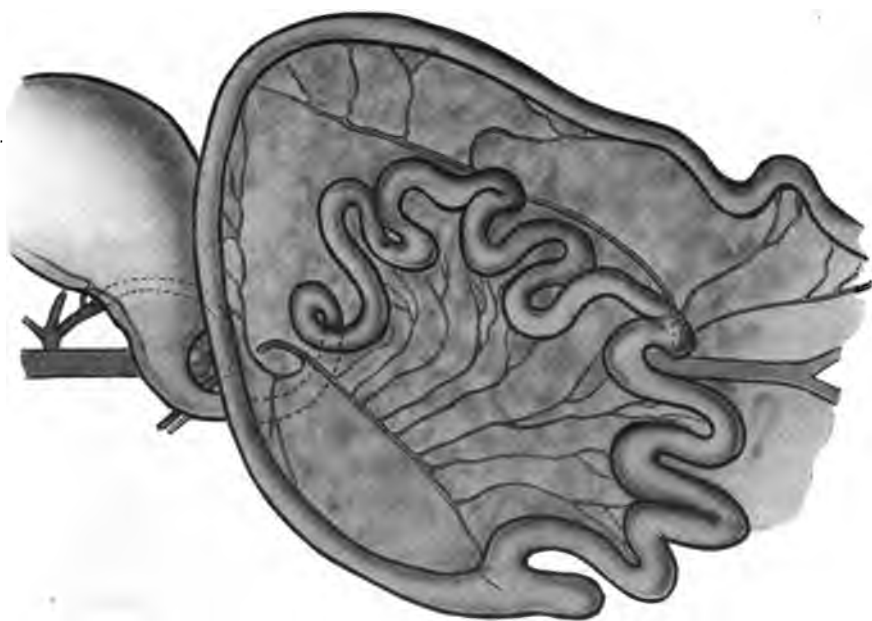


PLATE 2.—INTERNAL HERNIA. NORMAL ROTATION. 2ND STAGE.

After an urinalysis and a careful physical examination the diagnosis was changed to pyelitis, with a possible retro-cecal appendix. The history showed a boy 14 years of age who had had an operation for stone in the bladder three years ago. Thanksgiving Day he had a three-hour attack of pain in the abdomen, right side, raising his right knee. December 30, 1921, he was seized with acute abdominal pain in the right side, much the same as previously. The examination showed a rigid abdomen tender on the right at site of McBurney's point, right knee flexed on the abdomen. Chest showed diminished breath sounds over the right lung posteriorly and anteriorly below, with dullness and bronchial breathing. This condition was also found over the left lung. Temperature 103, pulse 120, respiration 40. Rectal examination showed no mass or tenderness. W. B. C. 20, 600 Polys. 92 per cent. Urine three plus albumin, slight trace of indican, finely granular casts and much pus. My personal notes show a right kidney tender in the costo-vertebral region with some tenderness over the iliac region and the groin. No rales in the chest but a dullness. Diagnosis lies between pyelitis and retro-cecal appendix, but the rectal examination is negative, which is rather against appendicitis. The urine is rather positive of pyelitis. X-ray of the chest was negative, except for a general heart enlargement. X-ray of the kidney suggested, which showed two stones in the right kidney region, one in the lower pole and one in the pelvis. Dr. Raynor's consultation notes show the following diagnosis: Lies between right lobar pneumonia, appendicitis and pyelitis. Physical examination excludes pneumonia; sensitive spots which are lateral with the X-ray findings show a disease of the right kidney. Operation January 12, 1922, showed a perinephritic abscess with a perforation of upper pole with a stone, also stone in the pelvis and the lower pole. The kidney was split and the stones removed; enough kidney tissue seemed normal to justify suturing it and a drain was put in. No evidence of involvement of the appendix was noted. The output of urine increased up to 34 oz. on the date of discharge, which was February 18, 1922, and the wound was healed. Discharge diagnosis: Nephrolithiasis and perinephritic abscess. The diagnosis in this case could have been made by the physical examination for the costo-vertebral tenderness was the most positive point in the whole syndrome.

The surgery of childhood differs from that of adults. Children do not stand shock as well, therefore, operations should be shorter. They do not bear hemorrhages in proportion, therefore, hemostasis must be more exact. Other things being equal an operation on a child is much more serious and the indications must be more exact than in an adult. A great point in surgery of childhood is to be sure you are right then go ahead.

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### RECENT STUDIES IN MATERIA MEDICA

BY H. O. SKINNER, M.D., ST. PAUL, MINN.

MANY years ago there was read before this society a paper on *cimicifuga*. This drug was represented as a woman who was speaking. Among other things, she complained that she was constantly expected to do things for which she was unfitted and then blamed because she was unable to do them.

This is the vulnerable spot of our school. Expecting our remedies to do things which we had no right to demand of them has brought far more ridicule and humiliation to ourselves and discredit to our school than has our law of *similia*, even our infinitesimal dose.

In order to know what we may legitimately expect of a drug we must know not only what symptoms it can produce, but also what tissues it affects and how; for a drug which is homœopathic to the symptoms and not the pathology is only half indicated and can not possibly do the work of the more completely indicated ones.

The pathological indications for our drugs have been neglected because Hahnemann inveighed so heavily against pathological prescribing; but it must be remembered that he inveighed against the pathology of his day. Diseases were little understood then and pathology was largely a mixture of superstition and guesswork, in no wise a sound foundation for a system of scientific therapeutics, and he was very wise in counseling his pupils to base their prescribing on the substantial things of their own and their patients' observation.

Yet in principle, Hahnemann was not opposed to prescribing on pathological grounds, or even upon a diagnosis

when this indicated a constant pathology. Thus from his earliest writings to his latest he mentions but one remedy for syphilis, namely, "the best preparation of mercury." At one time he considered this to be his "mercurious solubilis," and later the "mercurious vivus."

Again he described what he called the "genius epidemicus," which he explained somewhat as follows: Not many victims of an epidemic presented all of the characteristics of the disease nor even enough of them upon which to base a competent prescription. If, however, numerous patients suffering from the epidemic were studied together, their composite manifestations would give an adequate conception of the disease as a whole, and the remedy indicated thereby would be the genius epidemicus, which should be given to all the patients. By this process, Hahnemann, before he had seen a single case of cholera, named camphor as the specific remedy, suggesting veratrum and cuprum as likely to be also beneficial.

But the perfect analogy is found in Hahnemann's discussion of psora. Here was a pathology he could trust because he himself discovered it. The fact that he was mistaken in its relation to scabies, matters not at all, nor does it matter whether it be called "Psora" or "Exudative Diathesis." When this pathology was present, the indicated remedy was to be selected from the class of drugs which he called antipsorics, those drugs which were homœopathic to the pathology.

This should be our method of prescribing: To select from those drugs which are homœopathic to the pathology (when such are known) those which are also homœopathic to the symptoms.

I have mentioned this, not as the quotation of authority, for experience abundantly confirms the value of this method, but rather to pay further tribute to that great man whose therapeutic principles are more and more verified by the onward march of scientific research.

The provings of most of our drugs were made before the days of modern scientific research and we have had, heretofore, to prescribe upon symptomatic indications, learning by experience in which clinical or pathological conditions to expect results.

In the main, this process has proved satisfactory, much more so than any other method, and to those of riper experience, the revelations of the laboratory will be merely corroboration.

rative, but to the beginner, to whom our materia medica is but a meaningless mass of symptoms, they will be of greatest value.

Active interest in this began when Wright announced his theory of opsonines in his laboratory. I believe it was demonstrated that phosphorus raised the opsonic index against the tubercle bacillus, hepar that against the staphylococcus and ferrum phos. that against the pneumococcus.

The most extensive work has been done in the homœopathic department of the University of Ohio under the direction of Dr. A. E. Hinsdale.

It is impossible to give here anything like a complete review of Dr. Hinsdale's work and I can present only enough selected items to show what is being done.

Phosphorus, in his hands, was shown to produce a congestion of the bronchi and a bronco-pneumonia in which clinical conditions it is most commonly indicated by the symptoms and is of unmistakable benefit.

Kali bi., produced a bronchitis and evidences of pleuritis but not pneumonia.

Iodine produced a pneumonic process which made its appearance early and extended rapidly.

Chelidonium produced a severe congestion of the superficial portions of the lung with the pleura distinctly inflamed, but the deeper portions of the lung were normal.

Of all the drugs tested on the lung, bryonia gives the closest similia of a lobar pneumonia; it also produced inflammation of the pleura.

In the liver, chelidonium produces more of an edematous condition than a congestion. Bile stasis is present.

Bryonia, on the other hand, produces a congestion.

Phosphorus produces necrosis fatty degeneration and infiltration. The absence of any signs of congestion explains why phosphorus has so little pain in its symptomatology.

Merc. cor. produces not only congestion but a true hepatitis with the beginning of small abscesses.

Terebinth, arsenicum alb., merc. cor., apis, phosphorus, kali bi. and cantharis possess in pronounced degree the power to lower the functional ability of the kidney to eliminate the waste products of metabolism, and when this condition is present, these remedies should come to mind, to be differentiated, one from the other, by the symptoms of the patient.

Phosphorus, kali bi., apis, cantharis, arsenicum, terebinth and merc. cor., were found to produce a condition of acidosis, marked in each drug, which explains, on homœopathic grounds, their known value in such diseases as cholera infantum, dysentery, typhoids, etc., when indicated also by the symptoms.

Arsenicum, merc. cor., and apis produced an increase in the urea nitrogen content of the blood.

Arsenicum, merc. cor., ferrum and phosphorus produced a decided reduction in the total blood solids with noticeable loss in weight.

Studies in the sugar content of the blood show that syzygium and phosphoric acid bear no pathological relation to diabetes. Uranium nitrate does produce the hyperglycemia which is the cause of the glycosuria, but whether it produces it in the same way that diabetes does is not certain. The salicylates paralyze that function of the tissues which enables them to take up sugar from the blood, which is the pathology of diabetes and, therefore, they are homœopathic to it.

Arsenicum, plumbum aceticum and manganum sulph., all reduce the iron content of the blood, being homœopathic, pathologically, to chlorosis and of value in this disease when indicated by the symptoms. China, ferrum phos., phosphorus and arsenicum all lowered the specific gravity of the blood, thus proving, pathologically, their value in conditions arising "from loss of vital fluids" as our materia medica puts it.

Some very interesting experiments were made with burns, produced by immersing the ears of rabbits in hot water and the conclusions are that "Cantharis, when applied locally in dilute solution, immediately after exposure to a moderate degree of heat, is capable of preventing to a very great extent, the pathological results of burns of at least the first degree."

Dr. Hinsdale's proving of bellis perennis gives it a place in the treatment of rheumatic conditions in which there is a bruised, strained feeling with general soreness of joints and muscles with no characteristic modality. It is also indicated and of value when these symptoms result from exposure and after vigorous physical exercise and in Dr. Hinsdale's experience, surpasses arnica in these conditions.

Also experiments on the blood vessels have been made with two seldom used drugs of value in arterio-sclerosis. Baryta mur., has produced all the changes of the benign type while plumbum met. produces those of interstitial nephritis as

well. While Dr. Hinsdale is careful to state that in these conditions, and especially in the latter, a cure is not to be expected, he is quite positive that such drugs as these will enable these patients to "spin out the web of life to a greater length than with non-homœopathic treatment."

Much question has been raised as to the therapeutic value of *crategus*. A reproving by Dr. Hinsdale shows that this drug produces a reduction in the pulse rate, a reduction in the blood pressure, dyspnea and a pain under the left clavicle. This last symptom had been reported cured by *crategus*, but had not been before produced by it. In other ways this proving merely confirmed the accuracy of the proving made at Ann Arbor. Clinically, *crategus* has relieved these same conditions but only when given in from 5 to 20 drop doses of the tincture.

Likewise he has demonstrated the inhibitory action of *calendula* upon bacterial growth, and the sedative action of *avena sativa*, *cypripedium* and *passiflora*. These actions are not pronounced and in the case of sedatives are so slight as to be overcome by the stimulation of their alcoholic content if not given in aqueous solution.

In closing I wish to report a most remarkable case illustrating alike the value of the pathological indications and the homœopathic prescription. A patient suffering from post-operative shock had not responded to any of the usual methods of treatment and was considered hopeless by her surgeons. Dr. Hinsdale was then permitted to "experiment" with the homœopathic remedy. Symptomatically her condition called for camphor or *veratrum alb.* Camphor had been given without result. The pathology of shock is the unusual combination of increased peripheral tension with a falling blood pressure. Camphor does not have this pathology but *veratrum alb.* does. *Veratrum* in aqueous dilution was given intravenously, and the patient recovered.

I might also add in closing that this kind of drug study should not be allowed to go the way of the usual magazine contribution, but instead, Dr. Hinsdale and his associates should be urged to preserve it in book form, quite possibly as a revision of Hughes' *Pharmacodynamics*.



**NEURASTHENIA FROM THE ENDOCRINE STANDPOINT**

BY THEODORE K. GRAMM, M.D., PHILADELPHIA

(Read before the Germantown Homœopathic Medical Society, June 19, 1922.)

NEURASTHENIA is commonly known among the laity as nervous prostration, nervous debility or nervous exhaustion. It is a condition in which there is more or less marked and persistent diminution of nervous energy, together with an increased reaction, mental and physical, to external impressions. In other words, nervous weakness with nervous irritability. Neurasthenia when used by the medical profession, is a term which has been applied loosely to a large and heterogeneous group of symptoms showing instability and excessive lability, both mental and physical, such as occur also individually or collectively in a great number of organic diseases and known constitutional defects. Whether the syndrome ever exists as a primary and independent condition or as a concrete and definite symptom complex is at present doubtful.

To deal satisfactorily with a condition totally lacking demonstrable specific pathology and presenting only a confused mixture of symptoms, individually and collectively such as may represent the commonest and most logical results of a great number of chronic and acute diseases, would seem to be, and doubtless is, a hopeless undertaking.

There are no symptoms or symptom groups peculiar to neurasthenia in the light of modern knowledge and its continued existence seems to depend upon the fact that in some instances a genuine scientific diagnosis is unattainable. This obviously constitutes an uncertain tenure, especially as the syndrome reflects apparently a distinct toxemia or subnutrition of the centers, conditions which must often arise from cryptogenetic foci of infection, minor circulatory defects, faults of internal secretion or renal permeability such as may be obscure or quite beyond detection for a time, but frankly manifested later. To a remarkable degree its manifestations depend upon depressed general nutrition associated with structural deficiencies of the type of universal congenital asthenia. Berthold Stiller of Budapest originally described this condition and it is now becoming recognized as the condition basic in manifold disturbances of function, inadequacies of structure and predisposition and vulnerability to infection. It explains fully

that frequent inadequacy to sustain the normal amount of stress incidental to life and life's work which, heretofore, has been regarded as the keystone of the neurasthenic arch. Much confusion has arisen from a tendency to place certain obstinate or inveterate psychic deviations under neurasthenia or neurasthenic psycho-neuroses.

Functional hypoadrenia is more common than some have appreciated, and the fact that there is a psychic origin as well as other physiological causes allies it to neurasthenia, thus giving a ductless gland origin to this syndrome. The typical neurasthenic generally has disturbance of the suprarenal glands on the side of insufficiency. The blood pressure in these patients is almost always low; (90-100 min.) for the individuals, and their circulation is poor. A temporary deficiency in the production of the chromaffin hormone shown most frequently by a tardy response of the circulatory system to its accustomed stimuli, and the development of a condition of circulatory inefficiency, the so-called hyposphyxia of Martinet. This is a condition of circulatory semi-asphyxia with venous stasis, insufficient arteriolar circulation with cold extremities and occasional slight blueness (often a mottled appearance) of the skin on different parts of the body, especially the exposed parts. The muscular and nervous manifestations are important. Asthenia is the rule, and muscular tone (both striped and unstriped muscle) is poor. Exertion is impossible and the fatigue syndrome is prominent. The intestinal musculature is inactive and stasis is common. Mental exertion, even the simplest, often causes so much weariness and exhaustion as to be prohibitive. Mental elasticity is lost and there is both mental and physical depression with the fear that the individuals cannot now accomplish their accustomed good mental work; and the story that they have lost their nerve. With this one often notes a fearfulness of making wrong decisions and a vacillating and indecisive frame of mind. This is usual where there is adrenal insufficiency. The greatest single cause being chronic toxemia either of alimentary or focal infective origin.

A vasomotor paralysis often present, produces chilling, flushings, cold or burning hands and feet, drowsiness when the patient is up, wakefulness on lying down and hence insomnia is almost constantly present.

Many of the common symptoms of neurasthenia are obvi-

cusly sympathetic in origin. Who of us has not seen the typical blotches appear on the skin of the neck and face as the neurasthenic subject works himself up into a state? The clammy hands, flushed or pallid features, dilated pupils, the innumerable paresthesias, the unwonted sensations in head or body are surely of sympathetic origin. In not a few cases of neurasthenia symptoms of this class are the chief and only manifestations of the disease. Here, then, is a condition of sympathicotonus; may it not have much to do with impairment of function of the chromophil system? It is difficult to avoid the conclusion that defect of glandular function is responsible for much of the clinical picture of neurasthenia.

Since the endocrine glands are not separate and isolated entities, but each is a part of a grand and harmonious system working for the good of the entire organism, it follows that a derangement in one gland, or part of the system, will upset the normal balance existing between the various glands.

The thyroid gland supplies the blood with a secretion which incidentally sustains the functional activity of the anterior pituitary body. The anterior pituitary body is directly connected with the adrenals, by nerves passing by way of the base of the brain, the bulb, the spinal cord, the upper dorsal sympathetic cord, the greater splanchnic and semi-lunar ganglia the terminals of which are now known as the suprarenal nerves. The thyroid gland, the anterior pituitary body and the adrenals are functionally interdependent, and constitute a system through which cardiac action, respiration and general cellular oxidation are maintained. The posterior pituitary lobe being very rich in nervous element and, therefore, in phosphorus is excited by the thyroid secretion in the blood circulating through it, increasing oxidation and enhancing metabolic activity. The thyroid gland sustains the normal functional activity of the anterior pituitary, while the latter in turn maintains the normal activity of the adrenals. The functional activity of the anterior pituitary body is increased when the blood contains an excess of thyroid secretion or sufficiently active toxics such as bacterial toxins, poisons, physiological toxalbumins, etc. The functional activity of the adrenals is increased proportionally with that of the anterior pituitary body when the latter's activity is increased from any cause. The functional activities of the anterior and posterior pituitary bodies is passively decreased when the blood contains an insufficient proportion of

thyroid secretion or is inadequately oxygenated, or when, from any cause, its intrinsic metabolism is reduced.

As I have considered the adrenals, pituitary and thyroid as one system, it remains only to mention briefly the part played by the ovaries, testes and gonads in cases of neurasthenia, for these individuals complain of many sexual symptoms, either real or imagined. The fact that the ovarian internal secretion is so intimately connected with those of other glands, notably the thyroid and pituitary, makes it rather difficult to set down accurately the result of ovarian dysfunction alone, since the symptoms may not necessarily be purely ovarian but rather due to a pluriglandular manifestation which includes factors not of ovarian origin at all. The chief point to remember is that the ovarian secretion reciprocally stimulates the thyroid. From the standpoint of diagnostic endocrinology the ovaries are subject to three forms of dysfunction: 1. Deficient secretion; 2 Excessive secretion; and, 3, Perverted secretion. The outstanding manifestation of hypo-ovarism is amenorrhoea in varying degrees from complete absence of the menses to irregular menstruation, frigidity, sexual apathy and sterility. Equally important is dysmenorrhoea in its various manifestations. The results of early ovarian insufficiency are combined and generally known as infantilism. A late onset of ovarian insufficiency is not accompanied by a lack of physical development for obvious reasons, but the functional changes are usually clearly discernible. Excessive ovarian activity is not nearly so frequent as hypo-ovarism.

Rarely in early life it may accompany pituitary disease, abnormal thymus atrophy, or a pineal tumor, and as a result of the dyscrinism the ovaries may commence to functionate very early or abnormally. Cases are on record where evidences of puberty were present at five years. Again, hyper-ovarism may cause functional menorrhagia, nymphomania and even sexual insanity. Perverted ovarian function is also known as ovarian poisoning, which results from a perversion of the function of the ovarian cells, usually associated with structural changes, such as the development of tumors, etc.

Now we come to a consideration of the hormones in impotence. The two essential effects of the spermin are dynamogenic. First, increased muscular, nervous and sexual tone. Secondly, homo-stimulation of the gonads. It is well-known that the anterior lobe of the pituitary body exerts a gonad

stimulating effect. Again, hypothyroidism usually accompanies hypogonadism whether in the male or female. The prostate is indeed a gland which has some broader physiological influence than the production of its seminal secretion. Many writers believe that it is a real endocrine organ; and experience shows that to add prostatic extract to the other gonado-stimulant extracts is worth while, especially where there is a prostatic factor in a case of neurasthenia. This very briefly covers the endocrine system and its relationship to neurasthenia; and as a concise summary of the subject, I would say that the asthenia appears to be of adrenal and testicular origin. The insomnia and headache associated with arterial hypotension arise from an adreno-pituitary deficiency. The irritability of temperment seems to be hypo-parathyroidism and the cerebral depression due to hypo-thyroidism.

In conclusion, just a word about treatment. Because one endocrine gland cannot act abnormally without causing a derangement or modification in the activity of some other gland closely associated, it is the opinion of the best authorities that pluri-glandular therapy gives the finest results. I have tried to show in this paper the reciprocal action of the component parts of the endocrine system.

There are many preparations of glandular extracts upon the market; I do not recommend any particular company's products; they are all good, provided they are fresh. I would like to emphasize the fact that all organotherapy products given by mouth should be in hermetically sealed soluble capsules. Tablets or telescope capsules are unreliable. Certain products given hypodermically are also satisfactory. I do not care to mention the different combinations of organotherapeutic preparations on the market as that would be a waste of your time; you are all very familiar with them. The proper procedure in a case of neurasthenia is to question the patient closely and by deduction select that particular combination of organo-therapeutic preparation which appears to be most homostimulant or homœopathic.

I wish to take this opportunity to thank the Society for the privilege of reading this paper.

**UNIVERSAL CONGENITAL ASTHENIA**

BY G. HARLAN WELLS, M.D., PHILADELPHIA, PA.

CLINICAL PROFESSOR OF MEDICINE, HAHNEMANN MEDICAL COLLEGE, PHILADELPHIA, PA.,

(Read before the Germantown Homœopathic Medical Society.)

EVERY day the general practitioner has a patient walk into his office with a group of symptoms that would fill a fair sized book and that would require the combined genius of a Hahnemann and a Sydenham to list and analyze. Usually this patient is a young woman and usually she has visited every other physician in her community, including a variety of specialists. Her condition has been variously diagnosed as neurasthenia, tuberculosis, anemia, debility, nervous dyspepsia, floating kidney, falling of the womb, gastropnoia, weak circulation and a "run down condition."

The patient complains that every doctor she sees diagnoses her case differently, and she often reproaches the medical profession because doctors do not agree, and yet puzzling as it may seem to the laity, it is entirely possible that all the doctors are right and the patient may have all the conditions referred to, and many more, because she is possessed of a peculiar physical structure, congenital in origin, that is the basis of all her ill health. This condition was first adequately described by Stiller and to it he very appropriately gave the name of "Universal Congenital Asthenia."

**ETIOLOGY.**—The etiology of this developmental abnormality is obscure. In going over the history of a considerable number of cases, I find that heredity, especially on the female side, seems to be an important factor. Syphilis in the parents occurred in a very considerable percentage of cases. I have not been able to attribute any especial number to tuberculosis of the parents, though many of these patients themselves are tuberculous. Sex is a very decided factor, the percentage of females affected being eight times as great as men. As to the age, the conditions being congenital, the symptoms of ill health manifest themselves early in life and almost always appear before the eighteenth year of age.

**SYMPTOMATOLOGY.**—The symptoms complained of by these patients are numerous and varied. Lassitude, inability to perform continuous mental or physical work, poor appetite, a great assortment of dyspeptic symptoms and constipation,

are usually present. The patients complain that they get no strength out of their food, and it is with difficulty that they can maintain their normal weight. Fundamentally, the disturbing factor in all these cases is impaired nutrition, and this, affecting as it does every organ and tissue in the body, leads to a variety of distressing symptoms and renders the patient peculiarly susceptible to the effects of bacterial invasion and of over-exertion.

**PHYSICAL FINDINGS.**—The appearance of these patients is characteristic: They are thin, frequently tall in stature, with long arms, thin neck, an elongated thorax, a long flat abdomen, and have a tendency to curvature of the spine and flat foot. The muscular development is weak, there is a marked deficiency of adipose tissue and the patient usually has a pale and sickly appearance. On more careful observation we discover that the costal angle is very acute and that the distance from the tip of the ensiform process to the umbilicus is longer than the distance from the ensiform to the anterior axillary line. This peculiarity of physical development has been designated by Stiller as the "*habitus enteropticus*."

When the patient stands erect the epigastric region is sunken, while the lower portion of the abdomen often protrudes. A floating tenth rib is often present, though I have failed to find it in as large a percentage of cases as some writers. The aorta may pulsate very distinctly and there is often tenderness over the celiac plexus.

**RADIOGRAPHIC FINDINGS.**—The radiographic findings are diagnostic. The heart is small and usually vertically placed. The lower border of the stomach is displaced downward, frequently almost to the pubic region.

The transverse colon descends with the stomach, while the hepatic and splenic flexures may either descend or remain fixed. The distal end of the duodenum being fixed to the diaphragm by a strong ligamentous band, cannot move downward to any extent, hence dilatation of the duodenum and stenosis of the pyloric orifice of the stomach. Similar stenoses may take place in the colon.

**TREATMENT.**—The treatment of universal asthenia presents a complicated and difficult therapeutic problem. It is impossible to reconstruct the physical make-up of these patients along normal and anatomical lines. All men may be created equal in a political sense, but they are not created so

physically, and unfortunately these patients have started life with a poor equipment, and must carry their handicap to the grave. It is possible, however, by careful and persistent treatment, to relieve most of the distressing symptoms that accompany their condition, and to so increase their efficiency as to enable them to live comfortable and useful lives.

The important principles to be carried out in the treatment of these cases, are as follows:

*First*—Improve nutrition.

*Second*—Rest.

*Third*—Improve the function of the abdominal organs by increasing their blood supply, and restoring, as far as possible, their normal position.

I.—IMPROVE NUTRITION. This is absolutely essential if we are to accomplish anything of permanent value to the patient. Practically all of these patients are “bankrupt” as far as energy is concerned, and as the body derives all its energy from the food that it assimilates, we must bend all our efforts toward increasing not only the food intake, but to improving the digestion and absorption of the food. Where the patient is decidedly below normal weight, much time will be saved by putting the patient to bed, and administering food every three hours. There are two systems of feeding that I have found of practical value. First, give one pint of milk and two raw eggs, four times daily at about three hour intervals, with one solid meal preferably given at mid-day. Second, give the patient three solid meals daily with one pint of milk and one raw egg at 10.30, 4 and 8.30.

Where eggs are not well tolerated, a heaping teaspoonful of some preparation containing malt sugar, such as Mellin's Food or Horlick's Malted Milk may be added to each glass of milk instead of the egg. The following foods may be permitted in addition to the milk mixtures above described:

DIET.—*Soups*—Meat Soups, Vegetable Soups, Cream Soups, and Purees.

*Meats*—(Preferably Broiled or Roasted) Beef, Mutton, Lamb Chops, Poultry, Squab, Bacon.

*Fats*—Butter freely, Olive Oil.

*Vegetables*—Potatoes (mashed or baked), Hominy, Rice, Macaroni, Peas, Lima Beans, Spinach, Asparagus, Celery.

*Cereals*—Rolled Oats, Cracked Wheat, Cream of Wheat, Hominy Grits, Corn Meal, Toast (Whole Wheat Bread).



*Desserts*—Bread or Corn Starch Puddings, Milk and Egg Custard, Gelatin, Jams and Jellies, Plain Cake—small amount.

*Fruits*—Raw or Stewed Apples, Pears, Peaches, Grapes, Pineapple, Oranges, Raisins, Berries.

2. REST.—Where the patient is markedly below the normal weight, or complains of a decided lack of energy, rest in bed is essential if we are to obtain prompt and satisfactory results. Ordinarily this rest should continue for a period of four weeks, the foot of the bed should be elevated four inches by means of wooden blocks in order to throw the abdominal viscera into a more normal position. At the end of four weeks the patient should be gotten up for one hour daily, which may be gradually increased. Whenever possible, these patients should be instructed to lie down from one to two hours each afternoon, and to retire early at night for a period of six to twelve months. They should continue to sleep with the foot of the bed elevated.

As the treatment progresses the question of how much activity can be engaged in without losing ground, always arises. Some women are able to resume their usual household or business activities without detriment to their health; a larger proportion, however, are incapable of doing a full day's work without gradually drifting backward in weight and in strength.

It, therefore, becomes important to determine in each case the amount of activity that is suitable to each individual, and the patient must keep within her individual limit, or health will suffer.

3. IMPROVE THE FUNCTION OF THE ABDOMINAL ORGANS BY INCREASING THEIR BLOOD SUPPLY, AND RESTORING, AS FAR AS POSSIBLE, THEIR NORMAL POSITION.—It is obvious that in order to function efficiently the abdominal viscera must receive a normal blood supply and this necessitates a restoration of these organs to as near a normal position as possible. There are a number of methods of bringing about these results; probably the most effective are rest in bed, the foot being elevated, and abdominal massage.

After the patient has been gotten out of bed, there are two methods of favoring the maintenance of the normal position of the abdominal viscera, namely, exercise of the abdominal muscles and the use of an abdominal support. Exercise of the abdominal muscles is also the preferable method if the patient is under fifty years of age, and the abdominal

muscles are not entirely lacking in tone; about twenty minutes must be devoted to the exercise each day, for a period of six to twelve months.

If the patient's circumstances permit, abdominal massage three or four times a week is decidedly advantageous. The use of an abdominal support is ordinarily advisable in patients over fifty years of age, in patients whose abdominal muscles are so weakened by disuse that they are incapable of further development; and lastly, in patients who can not and will not carry out exercise with regularity and persistency. In women a combination of a suitable belt and corset usually is the most satisfactory support. In very thin persons a spring and pad device, such as the "Curtis Support," at times gives better results. In men an abdominal belt or the "Curtis Support" may be used.

**MEDICINAL TREATMENT.**—Much can be done to relieve symptoms, and to hasten the cure in these cases by careful prescribing. It is important to consider the constitutional peculiarities and diathesis of the patient in selecting the proper remedy. In my observation the following remedies are frequently indicated: *Nux vomica*, *ignatia*, *china*, *chin. arsen.*, *calc. phos.*, *calc. carb.*, *phos.*, *pusatilla*, *ferrum*, *merc.*, *iod. rub.*

The glands of internal secretion are also helpful therapeutic agents in many of these cases, especially the suprarenal gland, the thyroid (usually in very small doses) and the ovaries. Constipation is at times a troublesome feature, and is usually best treated by the use of mineral oil, one tablespoonful night and morning, or by means of enemas. Tonics containing iron, arsenic and strychnine are occasionally helpful in patients with impaired appetites and anemia. Active anti-syphilitic treatment by means of mercury and potassium iodide at times gives very satisfactory results, as hereditary syphilis is undoubtedly a factor in some of these cases.

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**AUTOSEBOTHERAPY IN GONOCOCCUS INFECTION.**—Schachmann reports very favorable impressions from subcutaneous injections of 1.5 c.c. of the patient's own blood serum in 15 cases of gonorrhoea and in 5 cases of gonococcus ophthalmia neonatorum. The ophthalmia subsided remarkably promptly.—*Bulletin de l'Academie de Médecine*, Vol. 87, No. 12.

**REPORT OF A CASE OF POLIO-ENCEPHALITIS INFERIOR CHRONIC  
TO WHICH WAS ADDED A CHRONIC MYELITIS**

BY WILLIAM G. SHEMELEY, JR., M.D., PHILADELPHIA, PA.

THE general practitioner is usually the one to whom such cases as this come for advice and treatment. It is of the utmost importance, therefore, that these "out of the ordinary" cases should be reported and brought to his attention, in the hope of assisting him to an early recognition of the general class of disease to which the case belongs.

With this thought in mind the writer desires to report the following case, which, while neurological in character, bears an intimate relation to the eye, ear, nose and throat specialist as a diagnostician in just such condition.

**COPY OF RECORDS AND COMMENTS SENT TO PATIENT'S  
PHYSICIAN, DECEMBER 14, 1921.**

*Patient.*—Mrs. K. G. Age, 58 years. Married. Case Record No. ——. Referred by Dr. L. E. Griscom, Camden, N. J.

Family history negative as to present condition.

*History of Present Illness.*—Patient has always been in good health up until two years ago, when she developed a feeling of weakness in right side of body that was gradual, but was progressive. No pain in right side or girdle sensation. No severe headache. In April, 1921, was examined by Dr. D——, who made a blood test and pronounced it negative. In summer of 1920 it was first noticed that her speech was affected; also that she had difficulty in swallowing. Did not have pain before, but at present she has pain in her throat. Sleeps good. Appetite fair. For past year has had constipation but previous to that had no trouble.

**EXAMINATION**

*Throat.*—There is a small white pedunculated growth in the left tonsillar fossa. This was removed under local anesthesia and sent to laboratory for examination. (See laboratory report).

*Larynx.*—Cords move in abduction and adduction, al-

though the left appeared overmobile, but it was hard to get an exact view. Examination made on December the 17th and 28th showed nothing abnormal in larynx at this time.

December 17, 1921—

1. Grips, poor.
2. Gait, unsteady, due to weakness of muscles, right side. Patient wears out sole on inside of shoe, right foot.
3. Knee jerk, slightly increased, both sides equal.
4. No ankle clonus.
5. Fine tremor to tongue; also small area of fibrillation. Unable to protrude tongue well; no lateral movement.
6. Poor swallowing. Mouth is filled with saliva, which seems to cause patient a great deal of trouble to expectorate.

#### EXAMINATION OF CRANIAL NERVES

1. Olfactory—Normal: gasoline, coffee, rose water.
2. Optic—Normal. (See eye report).
3. Motor Oculi—Normal. (See eye report).
4. Trochlear, sup. obliq.—Normal. (See eye report).
5. Trigeminus—Sensory, normal; motor, abnormal.
6. Abducent External Rectus—Normal. (See eye report).
7. Facial—Normal.
8. Auditory—Cochlear Branch—Normal.

#### FUNCTIONAL HEARING TEST

6m Akumeter 6m.

Weber Indiff.

norm. Schwabach sh. 5 in.

+ 40 in. Rinne + 32 in.

norm. C64 norm.

norm. c2048 norm.

norm. Air norm.

*Vestibular Branch*—Normal.

#### EXAMINATION FOR SPONTANEOUS NYSTAGMUS

When looking to extreme right, slight spontaneous rotary

nystagmus to the right. When looking to the extreme left, slight spontaneous rotary nystagmus to the left, but equal to both sides. (Physiologic). *No spontaneous nystagmus when looking straight ahead.*

Dec. 28, 1921.—Spontaneous rotary nystagmus to the right. (This was not noticed on Dec. 14, 1921.)

#### GALVANIC REACTION

##### *Right Ear*

Kathode, 1 ma. (increased existing nystagmus.) ↙

[Anode, 4½ ma. ↘

##### *Left Ear*

[Kathode, 4 ma. ↘

[Anode, 1 ma. (increase nystagmus.) ↙

#### EXAMINATION OF CRANIAL NERVES—*Continued*

9. Glosso-pharyngeal—Taste: sugar, salt. Tongue: tip, dorsum, side.  
Tip—Normal. Left Side—Normal. Right Side—Very sluggish. (Mouth washed between tests.)
10. Pneumogastric—Normal.
11. Spinal Accessory—Abnormal.
12. Hypoglossal—Abnormal.

#### EXAMINATION OF EYES

*Status Praes.*—Eyes move well together in all directions. Convergence good. Eyes stationary under cover for distance and near. Ocular and Palpebral conjunctiva congested. No secretion. Lacrimal apparatus normal. Tension normal, both eyes.

*Obliq. Illum.*—Cornea brilliant, transparent. Anterior chamber normal depth. Irides brown, normal texture. Arc senilis. Pupils round, equal in size, react promptly to light, accommodation and convergence.

*Ophthalmic Exam.*—Media clear, both eyes.

*Direct, O. D.*—Disc slightly elongated, axis 100, fairly well defined. Medium sized phy. cup. Lamina cribrosa not discernable. Macular region and fundus normal. Size and distribution of vessels normal.

*Direct, O. S.*—Disc round, fairly well defined. Medium

size phy. cup. Lamina cribrosa not discernible, because of connective tissue, which follows the vessels limited to the disc. Macular region and fundus normal. Size and distribution of vessels normal.

*Laboratory Report.*—Histological examination of tissue from tonsil shows the growth to be a retention cyst.

#### COMMENTS

A careful study of the symptoms presented by this case calls for a differential diagnosis between Polio-encephalitis superior chronica (progressive ophthalmoplegia or chronic nuclear ocular paralysis); Pseudobulbar Paralysis; the Combined Forms of Polio-encephalitis, and Polio-encephalitis inferior chronica (labiogloss alaryngeal paralysis); progressive bulbar paralysis; Basilar processes and bulbar growths.

Polio-encephalitis superior chronica is a disease affecting the upper cranial nerve nuclei on one or both sides, including those of the third, fourth and sixth cranial nerves. It has been known to follow infections and toxic states. Syphilis is an important etiological factor. In a fully developed case, the appearance is classical. Since the iridociliary-nucleus of the third cranial nerve and its adjoining nucleus for the elevator of the lid is affected, the eyelids droop, causing the patient to throw the head back and strain the frontalis muscle in the effort to overcome the partial ptosis. The eyes, more or less immobile, together with inactive pupils add further to the mask-like character of the expression.

Infrequently the descending root of the fifth nerve may be involved, giving rise to paresthesia or anesthesia of the face.

Pseudobulbar paresis may be organic or asthenic. Under the organic type may be found a cerebral form due to bilateral vascular lesions, that are cortical or subcortical. It is but rarely confined to the parts selected by true bulbar paralysis; neither does it present the atrophic or degenerative changes.

A radicular form of bulbar paralysis follows acute bulbar myelitis and hemorrhage into or softening of the bulb. Here the condition is of sudden onset and the motor tracts for the limbs and other bulbar functions do not escape. Tumors may cause the bulbar type of paralysis, but the headaches, vomiting, vertigo and appearance of the optic nerve (papillitis) are present, none of which are found in this case.

The basilar form (tumors of the base) and basilar meningitis, more especially of syphilitic origin, together with the neuritic form which generally only a part of a multiple neuritis, may likewise be ruled out in this particular instance.

The Asthenic form of Bulbar Paresis (*Myasthenia Gravis*) may simulate Inferior Chronic Polio-encephalitis, but it is never so definitely limited to the cranial nerves as is the case with this patient.

Polio-encephalitis Inferior Chronica is a progressive paralysis of the lips, tongue, pharynx and larynx. The nuclei and lower neurons (motor) of the seventh, ninth, tenth, eleventh and twelfth and the motor portion of the fifth cranial nerves are those affected. The condition is frequently associated with and is the same in character as progressive spinal muscular atrophy. The disease is of insidious onset. The tongue is generally affected first, being noticed when the patient attempts to pronounce letters which require definite lingual movements. There is a notable atrophy of the muscles of the tongue, which causes the dermal covering to appear too large and may even suggest hypertrophy. Saliva drools in quantities out of the drooping mouth.

The palate and lips are affected. If the palate is markedly palsied, food and fluids may regurgitate through the nose. As soon as the pharynx is involved the difficulty of swallowing reaches its maximum, and to all of this sooner or later is added a paralysis of the larynx.

This, then, is a case of Polio-encephalitis Inferior Chronica, to which is added a chronic myelitis. The condition is steadily progressive, and the prognosis is fatal. Cases usually terminate in from one to seven years.

The question of curative treatment is thus answered, but a great deal may be accomplished with palliative treatment to make the patient comfortable. The hypersecretion of saliva may be diminished by atropin, which is also a reliable heart stimulant to these cases. The red iodide of mercury 2x, because of the possibility of lues as a causative factor, may prove of value. The faradic current may be used to exercise the muscles of the face, tongue and throat. Other complications must be met as they arise; even tracheotomy may have to be performed in abductor laryngeal paralysis.

1831 Chestnut Street.

**BRONCHOPNEUMONIA: A CLINICAL DISCUSSION**

BY EDDY S. HASWELL, M.D., ALBANY, N. Y.

(Read before the Homœopathic Medical Society of the State of New York.)

IN adults bronchopneumonia seldom occurs as a primary condition for usually there is a more extended history of prodromal symptoms than is found in the lobar type.

Its causation may be divided into two groups.

(a) *Primary* in the clinical sense, when it is briefly preceded by an acute nose, pharyngeal or bronchial infection.

(b) *Secondary*, when it occurs as a complication or some other acute infectious or contagious disease, such as measles, whooping cough, laryngeal and bronchial diphtheria, tuberculosis, chronic catarrhal infections, influenza, and as a terminal condition in cardio-vascular-renal disease, diabetes and senile asthenia.

Bacteriologically its causes vary according to the type of invading organism.

*Symptomatology*.—The severity and detail of the symptom complex vary directly with the degree of pathological change, but to epitomize, it may be expressed as follows: The objective or physical signs on palpation, auscultation and percussion are those of a very severe acute bronchitis, while inspection together with the subjective symptoms are those of a lobar pneumonia.

In detail, the onset is usually insidious, seldom sudden, chills may or may not occur, cough of the tight, harsh, brassy or tearing type without expectoration or relief, but later becoming freer, and often blood streaked; respiration gradually increases in frequency to 50, 60 or even 70 per minute; the pulse is accelerated and the temperature varies from 100 degrees F. to 104 degrees F. or 105 degrees F.

The facial expression is anxious, flushed and later cyanotic. Regarding bronchopneumonia of the so-called "Spanish Influenza" type, or of true influenza, *i. e.*, la grippe, what has already been said of the symptomatology of other forms applies here with certain additions. The incubation period and prodromal symptoms, if any, are very brief, the onset being usually sudden with severe chills or intermittent chilly sensations; the temperature raises rapidly to 104 or



105 F., while the myalgia or muscle pain is intense. The headache is characterized as splitting; the eye balls are sensitive to slight pressure and painful on motion and photophobia is marked. These eye symptoms are of great diagnostic importance, for without them, it is hardly possible to make a diagnosis of influenza.

Prostration is simply tremendous and in its severity is out of all proportion to the apparent seriousness of the disease.

*Physical Signs.*—At the onset, usually only subcrepitant and sibilant rales will be found. Later varying sized areas of consolidation are found bilaterally. On palpation tactile fremitus is increased over consolidated areas.

The percussion note varies according to the size and location of the consolidated areas. On auscultation many fine subcrepitant rales are heard in region of consolidated areas while the respiratory murmur is bronchial, but more often it is broncho-vesicular.

The following is a synopsis of thirty cases of so-called "Spanish Influenza" on the service at the Homeopathic Hospital, Albany, N. Y., during the Autumn of 1918. These were selected promiscuously, the sputum typed at the State Laboratory, which reported that 16 showed Streptococcus; 3, Pneumococcus type I; 1, Pneumococcus type II; 2, Pneumococcus type III; 2, Pneumococcus type IV; 2, Mixed Streptococcus and Pneumococcus; 6, nothing isolated.

These varied clinically: 12 Bronchopneumonia; 8 Lobar; 1 Double Lobar; 9 wherein the conditions did not advance beyond a severe acute bronchitis; 2 Empyema—recovered. In this series there was one death, giving a mortality of 3.3 per cent., and that case was under treatment for tertiary syphilis and was over 50 years of age.

While this is instructive in one way, in another it is misleading for in September there were 9 patients with 1 death or 11 per cent. mortality; October 119 patients, 29 deaths, 24 per cent. mortality; November 30 patients, 4 deaths, 13 per cent. mortality; December 8 patients, 1 death, or 12 per cent. mortality. The average is 15 per cent.; but the total number of patients was 166, total deaths 35, giving actual mortality of 21 per cent.

I attended approximately 180 private patients with 4 deaths, or a mortality of 2.2 per cent. These 4 were as follows. Two of other physicians, one with a double lobar of

five days' duration in a child of 12; one complicated with a hemorrhagic nephritis; two of my own, one a physician who was sick for five days before I saw him, while the other was convalescing but went out against my orders; he was brought home in an automobile with a double lobar pneumonia and lived one week.

*Treatment.*—That fresh air is a necessity is a foregone conclusion because the decrease in lung cubic capacity requires an increased respiration rate, so that the system may receive its needed oxygen per minute.

Authorities differ widely in their opinions concerning counterirritants, but personally, I believe the use of counterirritants indicated to relieve the internal congestion which is highly important. The mustard plaster in proportion of one of mustard to three of flour applied for ten to fifteen minutes every three or four hours preceded and followed by a gentle rubbing with warm camphorated oil is very efficacious, relieving congestion and preventing secondary pleurisy.

The diet should consist of the various forms of liquid foods, and when the temperature is below 103 F. corn starch, ice cream, poached egg, milk toast, beef or lamb broth with rice or barley, tapioca or sago pudding may be given in small amounts every three or four hours.

Regarding the bowels, when needed I prefer a low enema of saline solution, and if an internal cathartic becomes necessary, I recommend some one of the more palatable salines and decry the use of the drastic vegetable cathartics.

When the temperature rises to 105 or above, ice bags should be continuously applied to the head, the extremities should be sponged every three or four hours with 50 per cent. alcohol, proctoclysis of normal saline should be administered and water drinking pushed to the limit.

I do not use the pneumonia jacket, but prefer a light weight cotton shirt, cut and fixed with tape so that it opens front and back.

Among drugs, calcium iodid in my experiences usually takes first place. It stimulates expectoration, is a pulmonary antiseptic, prevents the spread of consolidation and aids resolution, thus being indicated during all stages while the calcium iodid acts as a physiological cardiac supporter, rendering the use of so-called heart stimulants unnecessary. In the bronchopneumonia of "non-flu" type, the early or first type of

congestion is best combated with aconite and bryonia combined; the aconite, in homœopathic dosage, acts as a circulatory sedative without cardiac depression thereby reducing the intensity of the inflammatory reaction without interfering with the phagocytic action of the leukocytes. The bryonia having a selective affinity for serous and synovial membranes aids in combating the inflammation of the bronchial and alveolar mucosa.

If the onset is of the influenzal type the drugs indicated during the first twenty-four hours are eupatorium perfoliatum and ferrum phosphoricum; eupatorium promptly relieves the head, muscle and bone symptoms; while the ferrum phos. 3 grs. of the 3x trituration q.h. will promptly ameliorate and even abort the lung symptoms, frequently preventing the development of consolidation; at the end of twenty-four to forty-eight hours, a change to aconite and bryonia alternated with calcium iodid. After the next twenty-four hours, stop the aconite but continue the bryonia uncombined, or with veratrum viride. Should the expectoration be unduly thick, tenacious or ropey, as frequently observed in whooping cough or bronchopneumonia secondary to whooping cough, the calcium iodid should be discontinued and kali bichromicum 2x q.h. should be substituted; this will promptly relieve the severe paroxysms and liquefy the secretion. Rarely have I found it necessary to resort to narcotics and when so, only to very small doses of codein or heroin for the relief of the cough.

When resolution begins guaiacol carbonate grs. V in capsule q. 3 h. is very efficacious, previous medication being discontinued except possibly the calcium iodid which is always an aid to resolution. Give tonics as indicated. Much more may be said about the indication of various drugs, but I trust that those points will be brought out in the discussion of the paper as it is my personal opinion that the purpose of any paper is not so much to present the views of the writer, as it is to stimulate discussion by others wherein the greatest good is to be obtained by the largest number, but this paper would not be complete without enumerating a series of don'ts, which are:

Don't permit the patient to be disturbed with company. Don't over stimulate. Don't resort to digitalis, strychnine and nitroglycerin unless the emergency be most urgent; more patients die of over stimulation than from no stimulation at all.

Don't use whisky, the secondary effect of alcohol is to paralyze heart muscle. Don't permit patient to sit up too soon; no patient should be permitted a back rest until the temperature has been continuously normal for a period of at least five consecutive days, and he should not be permitted to get out of bed until the third day thereafter, then only one-half hour on the first day, A. M. and P. M., gradually increasing the A. M. and P. M. time until the patient has fully recovered. Do not use too strenuous artificial means of reducing temperature such as the cold tar derivatives, salicylates and quinine, all of which retard oxidation and embarrass cardiac action.

Lastly, don't forget that you are not treating a disease, but an individual afflicted with a disease.

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### EFFORT SYNDROME

BY E. RODNEY FISKE, M.D., BROOKLYN, N. Y.

(Read before the Homœopathic Medical Society of the State of New York.)

THE subject under discussion is sometimes described as "irritable heart," so-called by DaCosta and named during the war by the American authorities "neuro-circulatory asthenia."

It has a definite clinical entity frequently met in the examination of patients who came to us for cardio-vascular lesions. It was easily identified in our war experience where it was recognized in a vast number of cases of tachycardia in soldiers.

The experience of medical men who were active in the service in the examination of recruits revealed a definite clinical picture which became easily and promptly recognized at that time.

This clinical picture exists in civil life and may easily escape observation unless we realize the exact elements of which it is composed.

Lewis described the symptom complex in his short chapter on the subject in his book entitled, "Soldiers' Heart."

The etiology of the disease is obscure. The patient usually manifests a neurotic inheritance. Our investigations in camp showed that, in a very large percentage of cases, the neurotic tendency was maternal. There may be a history of insanity in the family as well. Some cases date their origin from an infectious disease. All cases present a general defective physical development and many are of the enteroptotic

habitus. The patients come from the group of those with sedentary habits, such as clerks and men whose work is principally in offices.

Lues was present in less than 2 per cent. Tobacco was a negative factor and alcohol was absolutely negative, the greater part being total abstainers.

The question of endocrine dysfunction arises, for many cases show symptoms of hyperthyroidism or hyperadrenalism. The etiology seems to prove the presence of some primary defect in the nervous system, for the patients have phobias, defects in memory, inability to concentrate and mental confusion.

Oppenheim and Rothchild found sexual abnormalities, childhood history of nervousness, somnambulism, nocturnal enuresis and nightmares.

We see that there is nothing definite in the etiology and no particular factor which we can call causal in any way.

Perhaps those cases which present a history of infectious disease give us a definite etiological factor, but the majority of cases give us nothing more than a general neurotic status.

The patient will complain first of breathlessness. This is occasioned by any effort which is more than ordinary, and we find nothing which can be called an organic causal factor.

The next symptom is that of fatigue and easy exhaustion. This is especially true in the morning. The patient cannot endure the average effort.

Next, they complain of pain which is precordial. This area will be tender and sensitive to touch over the pectoralis.

The patients have palpitation of which they are conscious and for which they usually consult the physician. They may complain of fainting, having several attacks of syncope. Giddiness, headache and symptoms about the head are frequently present.

The patient will complain of excessive sweating. He may notice that the skin of the hands particularly is mottled and cyanotic. He will complain of numbness and tingling in the fingers and hands. He is sure that he has serious heart trouble.

The physical examination of such patients usually presents to us a picture of a tall, slender individual of the viscer-optotic type. Examination of the heart will show an organ of normal size with an apex well within the nipple line, of

the dropped heart type, described by Greene. Radiograph of the chest will confirm this condition in a large majority of cases. There may or may not be a systolic bruit at the base. The heart will be overactive, the first sound being snappy and diffuse with a rate varying as described from 90 to 160. There is a poor response to rest, tachycardia remaining for a considerable period. There is marked tremor.

The skin is moist and clammy and the patient will complain of pain after pressure is made over the precordium. Dermatographia and pilomotor reactions are present. The vessels of the neck may be throbbing. The blood pressure may be slightly elevated.

The picture closely resembles that of a hyperthyroid case. We can easily differentiate it from such a condition by the absence of any thyroid hypertrophy and by a test of the patient's metabolism. In the cases of effort syndrome, this is always normal or slightly below normal.

The condition occurs most frequently among men and its age incidence is from 17 to 25. Cases occur later on in life and particularly at the beginning of the fifth decade. Symptoms which may have subsided during the third and fourth decades may reappear. These cases sometimes show a coincident evidence of hypertensive disease.

The treatment of these cases is difficult. In the first place, we have a neurotic patient who is obsessed with the idea that he has a serious heart disease. He may have been told so by some individual, whether physician or not, and such an idea becomes a fixed idea of the patient.

A careful examination should be made and every detail of the circulatory function should be obtained in order to make the diagnosis clear and positive. Then, the patient must be told with emphasis and force that he has no disease or disorder of the heart. This is the first and most necessary step in the treatment of the condition.

The question of the administration of some one of the endocrines may arise in the treatment of this case. So far, there is nothing definite which I can offer.

The hygiene of the patient must be carefully controlled. Moderate exercise within the limits of the patient's strength and ability, must be prescribed, with a gradual increase. Outdoor life and change of sedentary habits must be brought about and encouragement to engage in social activities should

be directed. Many of these patients are diffident, retiring and shy and they should be encouraged to become active and to mix with others and forget their imaginary diseases.

Homœopathic medication offers a vast group of suggestions, for these patients have symptoms which are innumerable. Remedies which have suggested themselves to me principally are belladonna, lachesis—especially for the mottling of the skin and cyanotic symptoms—sulphur, triturations of thyroid and adrenal preparations.

The cases are largely managed by suggestion and encouragement and, in the course of time, with co-operation on the part of the patient, a successful relief of the symptoms will be reached.

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TESTS OF RENAL EFFICIENCY.—Kidd says in summary: "Employ time tests pure and simple rather than quantitative tests. The time of the first appearance of indigo or phthalein is the important matter, not its amount. Time tests avoid the necessity for measuring the exact quantity of urine passed in a given time by each kidney.

"Instantaneous simultaneous correlation tests applied to the blood and each urine may be of value in a doubtful case. I have found of considerable value the electrical resistance test applied to a drop of blood serum taken while the ureteric catheters are in situ and applied also to a drop of urine taken from each kidney at the same time. A few drops of fluid only are required in this test, as compared with the large quantity needed for the cryoscopy and blood-urea haemorenal indices. This is why it is to be preferred in practice.

"The percentage of urea taken from the separated urines has often appeared to me of value, though in theory it should not be accurate. It is at any rate of more accuracy than attempts to measure the total quantity of urea passed in a certain time.

"Pathological and anatomical (pyelographic) considerations should not be forgotten; in practice the problem is usually solved satisfactorily by correlating them with functional considerations—e.g., does the urine from the poor kidney contain blood, pus, bacteria, as compared with the urine from the good kidney which is of good color, free from pathological elements, and gives a good time test? Pyelography is a good handmaid, concerning itself as it does with the surgical anatomy, and is often of more value than the tests which concern themselves with surgical physiology.

"Finally, I would rather put my trust in the indigo test than in all the other tests put together. It can be employed by the surgeon himself at the bedside and is therefore superior to any laboratory test. I have used it for fifteen years, and can recall only two or three instances in which it has failed me. Those were in cases of pyonephrosis on one side, where an alkaline-infected urine was also coming from the opposite kidney. In such cases the indigo may become decolorized in its passage through this infected kidney."—*The Lancet*, April, 1922.

## EDITORIAL

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### TWO IMPORTANT DIAGNOSTIC APHORISMS

MODERN science has robbed appendicitis and gall-bladder diseases of much of their danger. Early operation in both conditions is almost invariably followed by a successful result. Delays, on the other hand, have led to an undesirable and unnecessary mortality, because of the complications created by said delay. No one likes to be "cut," nor, indeed, does any one like to die or to lose a loved one. There is, however, a disposition on the part of the laity and profession to delay. A willingness to believe leads to a delay of operation, hoping that after all the sick abdomen will yield to medical treatment. We believe that misdirected sympathy has, in many instances, overcome good judgment, and delay is thus carried to the point of danger. This brings us to the statement of our first aphorism: *The acute abdomen that does not yield to good medical treatment within twelve hours does not exist.* This sounds very radical, and to many the short time of twelve hours seems extremely brief. When, however, we go over past experiences, we believe that we are very safe in thus stating the case. Time after time does one see cases of appendicitis and even of gall-bladder inflammation in which, after a clinical course of less than twenty-four hours, the disease structure is found more or less gangrenous and a septic appendicitis well on its career of destruction. We are even prepared to say that there are many cases in which this aphorism should be the guide to operation even though no other clinical indication for the same is present.

Appendicitis has been given a definite symptomatology, but, unfortunately, the guiding symptoms are oftentimes absent or are masked by the history. An anomalous position of the appendix may serve to suggest, by reason of the position of the pain, that the trouble is in some other structure, making it the physician's duty in applying the aphorism to practice that the best he can say is that the patient has a "surgical abdomen."

The history of the acute illness is usually the factor that



leads to delay in calling in the surgeon, and for hoping against hope that the scalpel can be kept in its case. We are told that the patient had been visiting friends, or had partaken of an unusual dinner, following which came the abdominal disturbance. A simple acute indigestion becomes the rational diagnosis, and rightly so, if the case is seen early by the physician, especially if signs and symptoms indicative of surgical abdomen are absent. The history of having partaken of an unusual meal is not to our way of thinking as valuable a diagnostic factor as would first appear. There is scarcely one of us who is not exposed to such a possible cause on an average of once a week the year round. In fact, adults are as much exposed to this cause of disease as is the average small boy to blows on the head, and all of our readers know how much stress we place upon the latter as causes of symptoms, amounting in fact to a healthy skepticism with an open mind to be convinced in the presence of positive data. Nature herself does much to cure the acute abdomen, and when aided by wise medical care, decided improvement is to be noted within the twelve hours, as specified. It is not expected that our aphorism will be followed in the absence of associated conditions, for such conditions usually are present. We have seen cases, however, in which no anatomical or pathological diagnosis is possible, but the failure to cure by rational measures suggest the existence of an unknown condition, which practice nearly always discovers is surgical.

Our second aphorism relates to head injuries. *The presence of a lucid interval or of a period with freedom from symptoms between the reception of the injury and the onset of symptoms suggests a meningeal haemorrhage, and is a positive indication for trephining.* Time after time have we observed neglect of this aphorism to result in unnecessary deaths. We read in the daily press of a ball player hit on the head. In the course of an hour or two, he begins to be dozey, and finally becomes unconscious. The case is diagnosed as concussion of the brain, and permitted to go at that. A man was riding a bicycle along a paved street. He fell off, striking his head. He walks to the pavement, and sits down to recover from his dazed condition. Shortly he lapses into unconsciousness, and is sent to the hospital. Trephining discovers meningeal haemorrhage. A foot ball player is hurt in a scrimmage, and goes out of the game. Three or four hours afterwards,

he experiences a paraplegia of moderately rapid progress. Autopsy shows spinal meningeal haemorrhage without vertebral fracture. If we but remember that the "lucid interval" is a very important diagnostic point, we are sure that many lives will be saved, and the victims of traumatism will die less frequently of so-called cerebral or "spinal concussion."

C. B.

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### THE AORTIC SYSTOLIC MURMUR

AMONG the questions asked of the candidates for licensure by the Pennsylvania State Board at its recent examination was the following: "What are the physical signs of aortic stenosis? What are the possible causes of a murmur heard in the aortic area, systolic in time?" To the unthinking this question appears to be one answerable in very few words. To the initiated the question is one of far-reaching importance. The subject is one concerning which the clinical staff at Hahnemann College and Hospital has laid considerable stress for many years, because there is altogether too great a tendency on the part of physicians to pass off every case of systolic murmur heard in the aortic area as due to aortic stenosis, thereby leading to inaccurate prognoses and much unhappiness on the part of the victim and his family. Now aortic stenosis is not to be diagnosed from the mere presence of a murmur systolic in time in the aortic area. Other factors are necessary. Nor is such a murmur always the result of an obstructive lesion at that orifice. Additional factors are essential in the presence of the latter condition. They include four additional factors as follows: 1. *Pulse characteristics.* As the obstruction causes the left ventricle to empty itself slowly, the arterial pulse must have a gradual rise, its acme must be well sustained, and decline must likewise be gradual; all of these features are readily recognized to a moderately well trained finger, and in a sphygmographic tracing are shown by a sloping up-stroke, a broad summit and gradually receding down stroke. 2. *The Aortic Second Sound is Weak.* This sign has a rationale to be appreciated quite readily. As the blood enters the general circulation gradually, the recoil following ventricular systole is not so energetic as normal, consequently the aortic cups close with less of a snap, and their intensity suffers in consequence. 3. *A thrill is*

felt over the upper end of the sternum, especially over the second right interspace. This thrill is systolic in time, and sometimes is transmitted to the carotids, and may be diffused over a wide area. This sign is not pathognomonic, as it is also found in aortic aneurysm. It is often absent in aortic stenosis. Its presence in association with the other physical signs serves to clinch the diagnosis of that condition. 4. *Moderate Hypertrophy of the Left Ventricle.* Aortic stenosis by throwing increased labor upon the left ventricle forces that portion to undergo compensatory hypertrophy, which never, however, proceeds to the high degree observed in connection with aortic regurgitation. The ventricular impulse is well defined, and has been described by Broadbent as a "deliberate push of no great violence." The auscultatory sign is a dull and prolonged first sound. Etiological factors aid in the diagnosis, as aortic stenosis is due to atheroma more frequently than to any other cause. It is less frequently the result of rheumatism, syphilis, gout and renal disease, although the latter are all possible causes of it.

2. *Roughening, Stiffening or Malformation of the Aortic Orifice.*—In these cases the patient is in advanced years. This condition is the one most commonly present when aortic stenosis is diagnosed. General arterio-sclerosis is present. Blood pressure is high, and the aortic second sound is accentuated.

2. *Roughening or Dilatation of the Arch of the Aorta.*—This condition likewise occurs in persons of advanced years with sclerotic blood-vessels. The aortic second sound is accentuated, and there is an extended area of dulness to the right of the sternum.

3. *Aneurysm of the Arch of the Aorta.*—An advanced aneurysm of the arch of the aorta is seldom mistaken for any other condition. In these days of conservation of life and health, the demand for early diagnosis is great. In aneurysm, we depend for an opinion upon the presence of a well-marked tactile thrill, pulsation in the second right interspace, and the well-known pressure symptoms, which include pupillary changes, pain, differences in the radial pulse of the two sides, and disturbed function of the recurrent laryngeal nerves. The aneurysm is known to be of the ascending aorta, if the murmur is transmitted into both the carotid and subclavian arteries. When the aneurysm is of the innominate artery, the murmur is audible in the right subclavian and carotid arteries

only. Limitation of transmission of the murmur to the axilla indicates aneurysm of the subclavian artery.

4. *Functional Murmurs, Including Those of Anaemia and Neuro-Cardiac Disease.*—Murmurs from this cause are but infrequently present over the aortic area; still their possible occurrence must be recognized. They are not transmitted and are soft in character. The associated symptoms, as the age and sex of the patient, and the examination of the blood afford positive evidence of their nature. Functional murmurs from neuro-cardiac disease as in hyperthyroidism are to be recognized by a study of the symptomatic totality.

5. *Pulmonary Stenosis.*—This condition usually produces a systolic murmur to the left of the sternum. Occasionally it is manifested by a systolic murmur on the right. It is to be differentiated from aortic stenosis by the absence of a transmission along the line of the great blood-vessels, and in that it produces no alterations in the aortic first sound.

6. *Persistent Ductus Arteriosus.*—The murmur of persistent ductus arteriosus starts with the systole and continues into the diastole. It is associated with a rapid hypertrophy and dilatation of the right ventricle, dilatation of the pulmonary artery, and a thrill over the anterior wall of the thorax, and as a result of the right ventricular enlargement, prominence of the upper part of the sternum. The symptoms of impaired pulmonic circulation are prominent, including cyanosis, dyspnoea, oedema of the lungs, and general anasarca. The majority of the patients die in childhood. A few cases have been known to live until fairly well advanced life.

We trust our readers will find this review of a State Board question of interest to them, especially so as this particular one is perfectly proper. It tests not only the actual knowledge of the student, but also his ability to reason. We are reliably informed that very few candidates indeed obtained a perfect mark, which is to be regretted. On the other hand the peace of mind of the examiner is to be congratulated in that over 300 examined did not give a complete and detailed answer to the question exactly as it was propounded. Had they done so, we fear that said examiner "would be kept on going yet." As things went he will have time to take his well earned August vacation.

C. B.

**"THE NEWER KNOWLEDGE OF NUTRITION"\***

BY DR. E. V. MCCOLLUM, PROFESSOR OF CHEMICAL HYGIENE IN  
JOHNS HOPKINS UNIVERSITY—PUBLISHED BY THE  
MACMILLAN COMPANY

WHEN the Editor of *THE HAHNEMANNIAN* asked me to review this book I began the pleasant task of reading it from cover to cover and systematically marking statements which I thought would be interesting and instructive to his readers. It was soon found that such references would be entirely too voluminous for a book review; hence it is only possible to mention a few of the unusual features of the book and recommend that all who are desirous of obtaining a modern conception of metabolism should live with the book for a few weeks.

First of all, Dr. McCollum has presented the numerous new facts in a systematic, interesting and instructive manner and has given hundreds of references to the related scientific literature.

Tables showing actual results obtained in demonstrating the conclusions reached are included.

Proteins are shown to have widely different values as food—those from the kidney, liver and milk have extraordinary values.

The proteins of the cereal grains are quite deficient and seldom supplement each other. Those from wheat and from pea in the proportion of  $\frac{2}{3}$  and  $\frac{1}{3}$  respectively, however, supplement each other very well.

Low protein diets are considered advantageous by Chittenden and Benedict from their elaborate experiments on young men but of the numerous experimental data from the work of McCollum and Simmonds none support this view.

The keynote to the discussion of the individual foods entering into the diet of man is the importance of using proper combinations of foods. The vitamin content of different samples of the same food varies considerably.

The germ of the wheat, rice, corn, etc., is the most valuable portion but is removed most frequently from food prod-

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\*The subject matter of this volume being so important and novel, the Editorial Committee decided upon an innovation, i. e., the publication of analytical reviews of monographs.

ucts because the germ is most prone to attack by insects. Even a worm selects the most valuable portion of the food, but the artificially established liking for white flour and white corn meal is an illustration of the failure of the instinct of man to serve as a safe guide in the selection of food.

Thin leaves are better than thick ones in furnishing vitamins.

We should not expect to secure growth and normal nutrition with mixtures of seeds and muscle meats. Such diets need supplementing with respect to calcium, sodium, chlorine and fat soluble A vitamin. Milk is deficient in iron.

A strictly vegetarian diet seldom contains all the dietary essentials, but McCollum, Simmonds and Pitz showed that rats could be grown successfully on a strict vegetable diet consisting of maize kernel 50, alfalfa leaf (dry) 30, and cooked peas (dry) 20.

Considerable space is devoted to a consideration of the dietary deficiency diseases. It is interesting to note that a diet which uniformly produced severe scurvy when fed to guinea pigs failed to produce a similar condition in a young prairie dog.

Separate chapters are devoted to "The Chemical Nature of the Anti-Neuritis Substance Water Soluble B," "Chemical Studies of the Dietary Essential, Fat Soluble A," "The Relation of the Diet to the Etiology of Rickets and Related Conditions," "The Nursing Mother as a Factor of Safety in Nutrition of the Suckling," "The Viewpoints Relating to Practical Problems of Nutrition," "The Dietary Habits of Man" and "The Problem in Preventive Dentistry."

Data are presented which show the basis of the establishment of dietary habits which in great measure would bring about within two generations a return to physical standards in man closely approximating the best which have been realized in human history.

Malnutrition is usually the primary cause of physical inferiority in childhood.

In recommending a suitable diet which will contain all food essentials and tend to improve greatly the human race, McCollum advises first of all a quart of milk per day; second, "Protective Foods," such as the leafy vegetables in liberal quantities. Third, a sufficient amount of raw vegetable food to provide the body with sufficient anti-scorbutic substance.

The consumption of meats should be kept below the present average.

In the course of these pages, the author has traced the beginnings of the development of exact knowledge of the processes of nutrition, and has shown how the science expanded through the intricate reasoning and refined experimental studies of an era, the great popularity of which has not yet begun to wane. The fundamental principles have been illustrated in all cases through the results of animal experiments. After these fundamentals had been established there followed a study of human experience with diet, throughout history man's most pressing problem, and finally an application of the discoveries of this branch of physiological science to an interpretation of certain of the present day problems of health and their solution. The concentrated efforts of the author during a period of fourteen years have been devoted to observing the effects of diets of different types on experimental animals. During this time a continuous search has been carried on for information of any and every kind which would aid in correlating the results of the laboratory with those of practical experience. Year by year this has increased his conviction that the scientific discoveries in the field of nutrition are destined to be recognized as the most fundamental of the agencies that contribute to the health, happiness and achievement of man. Some time must elapse before a full appreciation of the importance of approximating the optimum in the character of the food supply can be expected, but when appreciated at its full value, our knowledge in the field of the science of nutrition will be regarded as our most precious possession.

W. A. PEARSON.

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### EATING TOO MUCH

UNDER the above caption, Dr. H. M. Biggs, Health Commissioner for the State of New York, issues a circular for radio broadcasting. The subject matter is brief and strictly to the point. It is intensely practical. Wisdom permeates it from start to finish. First, it directs attention to the frequency with which people of middle age and beyond grow stout. It then states as the reason that persons at this time of life do

not require the same quantity of food as is needed by children, adolescents and young adults. After the age of forty, an effort should be made to maintain the body weight at the standard for height and age. To do this, the individual must cut down his food to the actual quantity required for nutrition, eat slowly and chew thoroughly. The stout person past forty is likely to be prosperous; hence he leads a life of luxury and takes insufficient exercise, using for conveyance automobiles and public vehicles instead of employing the motor machinery with which nature endowed him.

Dr. Biggs says very truly that most of us live to eat, instead of eating to live. "In other words, we allow our palates to tempt us to eat a great deal more than we really need." \* \* \* "Those who do not do this and who are very much over their normal weight for their age and height may well be said to be literally digging their graves with their teeth. From a series of over half a million people who were accepted and followed by life insurance companies, it was found that for every pound overweight, there was one per cent. increase in mortality for those in the middle period of life." The letter closes with the following pertinent advice: "Find out what your normal weight should be for your age and height and then make it a point to see that this weight is maintained, but not exceeded. Not only will your health be better, but you will feel better, and be able to do more with less effort."

Although the letter was prepared for lay consumption, it gives the practitioner of medicine suggestions which he may adapt to his everyday practice. Under normal environment, the average American eats altogether too much. When, however, it comes to the gastronomic entertainments of his friends, he is guilty of performances which make the physiologist gaze at him aghast. While sociability is supposed to be the real thing for such a dinner, the actual efforts are directed to giving high nutritive quality in a superabundance, one might almost say with criminal waste. The ultimate results of these conventions are ill-health oftentimes attributed to acidosis, focal infection, uric acid, tonsils, but much more truthfully may be laid to *eating too much*. Every one knows the truth concerning our subject. We have known it since the days of Sydenham, who composed the aphorism, "The platter kills more than the sword." But we doctors take no practical note of it. As



physicians, we know the uselessness of giving the warnings. They are simply too sensible and evident in the eyes of the patient to be worth a fee. The wise one simply makes up a diet list which for the time being reduces his patient to a life of semi-starvation. The patient receives it with the satisfaction he would over finding a gold treasury note, follows it and gets well. Had the doctor said, "stop eating too much," the patient would have gotten angry and consulted a more diplomatic physician. The public undoubtedly will take Dr. Biggs' talk with supreme good nature.

C. B.

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#### THE HOMŒOPATHIC MEDICAL SOCIETY OF PENNSYLVANIA

THE Homœopathic Medical Society of the State of Pennsylvania will hold its fifty-ninth annual session at the Hotel Berkshire, Reading, Pa., September 26, 27 and 28, 1922. Our Society has met at Reading on one previous occasion, at which time the attendance was greater than ever before or since. If numbers is an attraction we are certain that we shall be well satisfied as conditions are much more favorable now than they were then. The Hotel Berkshire is an ideal hostelry, so that members and visitors may rest assured that they will receive every attention.

The Entertainment Committee is under the supervision of the Chairman, Dr. E. K. Golding. Beginning with Monday evening, and continuing until the close of the session on the afternoon of Thursday, the 28th, the social interests of the members and their friends will be looked after well.

The scientific programme is under the direct supervision of the following: O. S. Haines, of Philadelphia, *Materia Medica*; Charles W. Ursprung, of Lancaster, *Pathology*; John C. Calhoun, of Pittsburgh, *Surgery*; Seymour D. Moon, of Pittsburgh, *Ophthalmology, Otology, etc.*; Thomas D. Mills, of Harrisburg, *Sanitary Science*, and William R. Williams, of Philadelphia, *Clinical Medicine*. The programme as presented by these chairmen is a long one, but it is not at all likely that the sessions will be congested by too much work. It is intended that each session will begin promptly on the minute scheduled on the official programme of the convention—and this though but one member is present to start

with. There is no greater thief of time than tardiness—a truism especially applicable to medical meetings. Its neglect at doctors' meetings is proverbial, and is an important factor in keeping down the annual attendance. Every effort will be directed to the correction of this great evil.

The by-laws respecting the reading of papers and reports and the time limits for discussions will be rigidly enforced. They are wise rules and were framed for the good of all. It is said that this can not be done, but we know it can. It is expected, therefore, that debates will be lively, interesting and instructive.

Through the energy and experience of Dr. G. Morris Golden, the exhibits will be better and more numerous than ever before. Contracts have been made for all the spaces on the mezzanine floor of the hotel, at the approach of the ball room. The list of exhibitors will be found on page 85 of the *NEWS AND ADVERTISER*, this issue. Appended are a few words from each of the exhibitors respecting the nature of their exhibit, and the value of the same to the medical profession. Several of the firms exhibiting will be represented by their chief in person. All of them in accordance with their custom, will have experienced representatives. We ask all of our members and visitors to inspect the exhibits thoroughly and critically, and visit them often. We have read what these gentlemen have to say for themselves and find them very interesting.

On Tuesday evening, September 26th, the Bureau of Sanitary Science, under the chairmanship of Dr. Mills, will hold a public session, by which we mean to say that the public will be invited to attend. The opening address will be delivered by Dr. Edward Martin, Health Commissioner of Pennsylvania. He will be followed by Dr. Royal S. Copeland, Health Commissioner for the City of New York, and who now ranks as our greatest authority on the practical aspects of public health and private sanitation. Other speakers will follow. The proceedings will close with a moving picture depicting Education of Nurses and Physicians. After adjournment, the members will be entertained by the physicians of Reading at a smoker to be held in the Country Club.

On Wednesday evening will be held the annual banquet at the Hotel Berkshire. Good speakers are promised us, and each one will be under bonds to limit his remarks as to quan-

tity with unlimited freedom as to quality. In other words, we are promised that there shall be no lengthy dissertations. Every speaker must retire with the best wishes of his audience.

The opening of the first session is listed at the unusually late hour of 10.30 o'clock. This was decided upon after careful deliberation. At this hour it is possible for members arriving by the various morning trains to reach the hotel on time, and *no one will be late*. From that time on, the schedule will be maintained as printed on the programme.

REMEMBER THE DATES OF THE MEETING! STARTING TUESDAY MORNING, SEPTEMBER 26TH, AND CONTINUING WEDNESDAY AND THURSDAY, SEPTEMBER 27TH AND 28TH, RESPECTIVELY.

WRITE TO THE HOTEL BERKSHIRE FOR YOUR RESERVATIONS.

VALUE OF DRUGS IN UROLOGY.—A list of drugs applicable to urology was prepared by Hugh H. Young, Baltimore, from "Useful Drugs" and "New and Nonofficial Remedies," and sent out to thirty of the best known urologists of this country. The eighteen drugs receiving the approval of 50 per cent., of the urologists are: hexamethylenamin, silver nitrate, potassium permanganate, argyrol, potassium iodid, neoarsphenamin, arsphenamin, boric acid, oil of santal, protargol, mercuric chlorid, sodium acid phosphate, tincture of iodine, mercuric salicylate, balsam of Peru, glycerin, sulphate of zinc and phenol. Thirty per cent. approved of twenty-five drugs. A few drugs like mercurochrome, benzyl benzoate, and benzyl alcohol were not submitted to the vote. Hexamethylenamin stands first in the list, although as usually given it is almost inert. Unless the urine is quite acid, formaldehyd is not liberated in the kidney in sufficient quantity to be germicidal or even inhibitory.

Water should be drunk sparingly—the urine should not be too dilute—and acidifiers, such as acid sodium phosphate and sodium benzoate, 40 grs. daily, should be taken along with large doses of hexamethylenamin (from 60 to 90 grains daily) to be of value. Silver nitrate is indispensable as being probably the most important antiseptic and caustic in chronic inflammations and ulcerations. The next two in popularity, potassium permanganate and argyrol, have been shown experimentally to be very weak antiseptics. Their value undoubtedly is due to the fact that they produce little reaction and irritation. Potassium iodid, the arsphenamins and various mercurials are essentials; but it is interesting to note that mercuric salicylate has displaced the iodids of mercury, although the ancient mercurial inunctions still rank high. The gray oil used by the British and mercuric cyanid and the benzoate so popular in France, are little used in America.

The rest of the list is silent testimony to the fact that the urologist is not a polypharmacist, and that many widely heralded and much advertised preparations have not proved acceptable.—*Journal of the American Medical Association*.

## GLEANINGS

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### MEDICINE

Conducted by CLARENCE BARTLETT, M.D.

**NON-TRAUMATIC PACHYMEINGITIS HEMORRHAGICA INTERNA.**—Dunn presents a very interesting study of five cases of pachymeningitis interna hemorrhagica. According to the literature at the disposal of physicians, this disease is found only at autopsies, or at least is not recognized until that time. His study of the cases presented seems to show that the disease may be diagnosticated during life, and is amenable to treatment. As a positive sign he relies upon lumbar puncture, which shows consistently the presence of a bloody cerebro-spinal fluid discharged under tension. Furthermore, he advises repetition of this procedure as the best available treatment. The clinical phenomena include headache of sudden onset, and which is commonly very severe. It is located mainly in the occipital and basal regions and in the neck, and is promptly relieved by lumbar puncture. It is very apt to continue long into convalescence. Rigidity of the neck and associated spinal nerve root irritation are regular symptoms. There may also be noted Kernig's sign, deep paravertebral tenderness, etc. Muscle stiffness and soreness persisted long into convalescence and were usually the last symptoms to disappear. Secondary symptoms are numerous, but are usually of value as localizing signs, or as evidence of the severity of the pathological process. Dunn's paper is one of unusual interest because hitherto neurologists have accepted this disease as of pathological rather than of clinical interest.—*American Journal of the Medical Sciences*, June, 1922.

**EPIDEMIC ENCEPHALITIS: CLINICAL OBSERVATIONS IN SEVENTY-EIGHT CASES WITH SPECIAL REFERENCE TO END RESULTS.**—Price, of Spokane, Washington, after the presentation of an analysis of 78 cases of this disease, draws the following conclusions: Approximately one-fourth of the cases of epidemic encephalitis seen by him terminated fatally. Of the remaining three-fourths, approximately 61 per cent. were left with persistent or permanent sequelae. Relapses were of frequent occurrence, but bore no definite relation to the severity of the initial symptoms, and could occur several months after recovery. Prognosis could not be determined from the character and intensity of the initial symptoms as a patient with mild symptoms at the onset could have a fatal relapse, and sometimes cases with severe or massive initial symptoms recovered. Epidemic encephalitis is not infrequently associated at the onset with symptoms of nasopharyngeal infection, but bears no relation to true influenza. Age bears a definite relation to mortality, children and young adults standing the infection much better than those of middle life or old age. Change in the abdominal reflexes is a frequent and important symptom in epidemic encephalitis, probably not hitherto sufficiently emphasized. Epileptiform attacks may occur as a sole manifestation of the

infection. Rest, quiet and care in preventing too early activity on the part of the patient, are essential in the treatment of epidemic encephalitis.—*American Journal of the Medical Sciences*, June, 1922.

**INFLUENCE OF RIGID SALT RESTRICTION IN THE DIET OF CHRONIC NEPHRITIS.**—Allen and others have claimed that the results of the treatment of nephritis by entire elimination of salt from the dietary brings the best results. This is protested by McLester, who gives in detail the results of his observations on ten cases. He is forced to the conclusion that the entire elimination of sodium chloride from the diet is a mistake, and if it does good in one direction, it does harm in others. He summarizes as follows: 1. The patients found the food unappetizing, and, therefore, usually ate but little. 2. The blood urea, instead of decreasing, showed a tendency to increase. 3. The blood chlorides, irrespective of diet, varied but little; while the urine chlorides, reflecting the degree of the patient's adherence to the diet, fell to a very low figure. 4. The systolic pressure, as a rule, showed a moderate fall. This fall was never marked. 5. In two of the patients there developed weakness and prostration to a distressing degree. 6. One of the patients suddenly experienced retinal haemorrhages and other fundus changes at the end of two weeks with this diet.—*American Journal of the Medical Sciences*, June, 1922. (Idealism is all right in its way; but it may be carried too far. All men must die; therefore, we must meet with many incurable cases of disease. We cannot attain our ideals of 100 per cent. of cures, when Nature ordains that in the end 100 per cent. of the community must die. It is a serious mistake for the idealist to attempt the evolution of treatments to cure the incurable. While we should always be idealists to the extent of improving existing conditions, we should not permit ourselves to be dissatisfied with that which is already good in the world. Now the limitation of salt ingestion is a good thing for the nephritic: this is undoubted. When we go to the extreme of depriving a patient of an essential, i. e., one of the inorganic elements of nutrition, we are making a mistake and inviting disaster. McLester's experience proves this most unquestionably.—C.B.)

#### DERMATOLOGY

Conducted by RALPH BERNSTEIN, M.D., F.A.C.P.

**THE SPONTANEOUS CURE OF SYPHILIS.**—Fritz Lesser believes that the cure of syphilis is spontaneous and that its frequency of cure is entirely independent of previous mercurial treatment, on the ground that therapeutic doses of mercury are not spirocheticidal but only palliative, removing syphilitic phenomena, whereas salvarsan not only removes the syphilitic products but also kills the spirochetes in non-toxic cases. The effect of the drugs can be studied experimentally: (1) by pure inoculation, which leads to a recurrence of the primary lesion in completely cured animals, and (2) by vaccination of organs which are inoculable in uncured animals. Mercurial treatment before or simultaneously with the vaccination is always ineffective. Therapy in an existing primary lesion shows that in 87% of the cases the spirochetes will disappear with mercurial injections, but only with such excessive dosage as is never used in man, showing that

in human therapy the mercury is not a spirillicide in the usual dosage. With neosalvarsan the ratio of the curative to the toxic dose is 1:10. In animals the effective dosage is toxic. Mercury is not a spirocheticide because of its organotropic effect. Animals can stand much larger doses of mercury and salvarsan than man. Mercury, however, does have a specific effect upon the syphilitic products and for this reason so many persons believe it to be a specific curative. Antisyphilitic therapy must be distinguished from the effects upon spirochetes, as is seen in the influence of potassium iodid upon tertiary lesions, although it is not a spirocheticide; the same applies to mercury; condylomas respond to mercury, whereas calomel salve fails as a prophylactic of syphilis. In this way a symptomatic cure must be differentiated from an etiologic cure. It cannot be proved that mercury favors an automatic cure, as is proved in serology, where syphilitics with many mercurial treatments in the early stage are not more frequently Wassermann-negative in the latent stage than those with little mercurial treatment; a thorough mercurial treatment does not exclude tabes or paralysis; in fact, the incubation period between syphilitic infection and the appearance of tabes may be shortened by mercurial treatment. The mercury may prevent the occurrence of early syphilitic symptoms and the recurrence of a positive Wassermann reaction, but as soon as the effect of the mercury wears off, recurrences may occur and the Wassermann reaction always becomes positive. The swelling of lymph glands is a natural curative factor, the increase of the lymphocytes preventing the spread of the spirochetes. Mercury acts as an absorptive and decreases the size of the glands; mercurial plaster rapidly reduces the induration of a chancre; the fever after the first salvarsan administration in sero-positive infections is not seen when mercury is given previously. In this way the mercury counteracts the natural healing factors by preventing the curative fever and the lymphocytosis. The prominent curative effect of mercury upon syphilitic products of disease is undeniable and in this respect only are mercury and potassium iodid the best antisyphilitics.—*Berl. klin. Wchnschr.*

**A PROPOSED STANDARD TREATMENT FOR EARLY SYPHILIS.**—It is recommended by George Walker that the treatment of syphilis be divided into five courses. The first course is the administration of arsenobenzol, 0.6 gm., and mercury salicylate, 1½ gr., weekly for six doses, followed by thirty days of rest. The second course consists of novarsenobenzol in ascending doses of from 0.6 to 0.9 gm., and mercury salicylate, 1 gr., weekly, for six doses, followed by thirty days of rest. The third course consists in treatment for one month with saturated solution of potassium iodid, 25 drops three times daily. The fourth course is a repetition of the second, followed by thirty days of rest from treatment. The fifth course consists of treatment for one month with potassium iodid, and weekly injections of mercury salicylate, 1 gr. Wassermann tests of both blood and spinal fluid control the treatment; a positive reaction is an indication for the fifth course of treatment.—*Southern Med. Journ.*

**A SPECIAL FORM OF TRICHOPHYTOSIS OF THE NAILS.**—P. Ravout and H. Rabeau studied a patient who presented lesions of the nails of six months' duration. The clinical findings suggested a parasitic affection.

Scrapings were examined after treatment with potassium hydroxid (40%) and no mycelia were found. Cultures on Sabouraud's medium, on the contrary, showed beautiful colonies after about three weeks. These cultures had very fine mycelia. They were sent to Matruchot and See who report that they found spores and mycelia and botanical characters sufficient to decide that the cultures were those of a Trichophyton. There is a short exposition on the Trichophyton as the cause of onychomycosis.—*Ann. de dermat. et de syph.*

## PEDIATRICS

Conducted by C. S. RAUE, M.D.

**ULTRAVIOLET RADIATION IN RICKETS.**—Kramer, Casparis and Howland, Baltimore, report the cases of five children showing clinical evidences of rickets, confirmed by roentgenographic examination of the bones, which were treated by systematic exposure to the rays from the mercury vapor quartz lamp. This was followed in every instance by healing of the rachitic process in the bones. The inorganic phosphorus concentration of the serum of these children was low (from 2.7 to 3.2 mg.) before the treatment was begun and gradually increased to a maximum of 6 mg. with the appearance of calcium deposition in the bones. So far as could be judged, healing of the bones following radiation occurred at about the same time as it does after the administration of cod liver oil. The changes in the phosphorus concentration of the serum were identical with those observed after cod liver oil treatment. The pigmented skin of the negro child did not interfere with the action of the light rays. The colored children required no more intensive treatment to bring about healing than did the white children.—*American Journal of Diseases of Children*, July, 1922.

**PROGNOSIS IN INFANCY AND CHILDHOOD.**—J. H. Marcus points out that the conspicuous feature in the prognosis of disease in early life is the age of the patient. It may be stipulated that the younger the patient, the worse is the prognosis in all diseases of childhood. In children with poor constitutional resistance the prognosis is correspondingly bad. The prognosis of tuberculosis, syphilis, measles, pertussis and scarlet fever is especially poor in the case of a nursing infant. Pneumonia has a better prognosis in children than in adults. In giving a prognosis in early life it must be remembered that there is a liability in infancy to sudden and unexpected death from various unsuspected causes, and that infants and children are very susceptible to complications. The occurrence of sudden death is not uncommon even in children who are apparently healthy. The most frequent causes for sudden death are malformations, internal hemorrhage, asphyxia, thymus hypertrophy, atelectasis, marasmus and convulsions.—*Medical Record*, February, 1922.

**ACTIVE IMMUNIZATION OF NURSES AGAINST DIPHTHERIA IN A CHILDREN'S HOSPITAL.**—J. V. Cooke, St. Louis, reports the results of a systematic immunization of all susceptible individuals in a nurses' training school over a period of years. The Schick test was positive in a group of adults in 58.5 per cent. During a four year period all nurses with positive Schick

reactions were given injections of toxin-antitoxin, and as a result more than 80 per cent. were immunized. As a result of the immunization, there was a decrease in the incidence of clinical diphtheria among these nurses of at least 90 per cent. as compared to a previous three year period. It is relatively easy to protect an entire nursing staff from contracting diphtheria by the use of the Schick test and toxin-antitoxin injections, and this procedure should be carried out in all institutions caring for children. —*American Journal of Diseases of Children*, June, 1922.

**A PECULIAR ERUPTIVE DISEASE OCCURRING IN INFANCY.**—Park and Michael of Houston, Texas, report twenty-one cases of so-called "roseola infantum" as previously described by Levy of Detroit, Veeder and Hempelmann of St. Louis, and others. The authors believe, from their own experience and that of others, that this disorder is a definite clinical entity. The outstanding features are an abrupt onset, high fever of from three to five days duration without apparent cause, and the appearance of a morbilliform rash coincident with a critical fall of temperature to normal. Additional points of distinction are the apparent non-contagiousness, and the predilection of the disease for infancy. Moderate leucopenia and lymphocytosis appear to be the only significant laboratory findings. The etiology is unknown.—*American Journal of Diseases of Children*, June, 1922.

**THE TREATMENT OF CYCLIC VOMITING.**—Dr. Crawford Green of Troy, New York, is of the opinion that cyclic vomiting is a form of acidosis. He points out the fact that none of the ordinary measures to control vomiting have any effect upon these attacks. The treatment which he advocates is as follows:

"As soon as the attack has begun, the child should be put to bed and kept absolutely quiet. No mouth feeding should be attempted—no water, no food, no medicine. Feeding should be by rectum; and the best food for this purpose is dextrose, given in a 5 percent. solution, to an infant 4 oz. every 4 hours—to an older child 6 oz. every 4 hours. Pure dextrose is often very difficult to obtain. Glucose is the next best substitute, and should be given in the same amount as dextrose. If neither is obtainable, peptonized milk may be used. To quench the very distressing thirst, which is always present, normal saline solution should be given by rectum during the intervals between the nutrient enemata. The amount of each injection should be from 4 to 8 ounces, and the frequency should depend on the thirst of the patient, but it is usually given 4 or 5 times during the day. Supportive treatment is sometimes called for by the exhaustion which the repeated vomiting induces. Despite the extreme exhaustion which is frequently encountered, however, these attacks seldom result in death; only a few fatal cases have been reported in the literature.

"When the vomiting has ceased for several hours it is not likely to recur if food is very carefully given, at first in very small quantities. Broth, thin gruels, whey, malted milk, junket and zweiback are the foods from which the dietary may safely be selected."

Dr. Green has tried the administration of calcium lactophosphate in a number of cases between attacks and from the results obtained has come to the belief that the calcium exerts a definite effect in preventing recurrences of the attacks. He administers the calcium lactophosphate in



doses of 2 grains after meals, more or less continuously. Dr. Green sums up his paper with the following remarks:

"I am aware that three cases supply very meager material from which to draw conclusions regarding any therapeutic procedure, but I feel that even a suggestion toward the relief of such an intractable and distressing condition is well worth consideration."—*Jour. of the Amer. Institute of Homoeopathy*, June, 1922.

(Calcium is unquestionably valuable in reducing the hydrogen ion concentration of the blood. Some years ago A. C. Croftan of Chicago, following the suggestion made by von Noorden, advocated the use of calcium in the uric acid diathesis and allied metabolic disturbances. He prescribed it in the form of the carbonate, giving ten to fifteen grain doses two or three times a day, together with a full glass of water. This mode of treatment is based on the fact that Calcium, on account of its affinity for phosphoric acid, combines with this substance in the blood stream, forming a phosphate which is eliminated almost entirely by way of the intestinal canal. The phosphoric acid of the blood and of the urine is thus reduced, and the sodium relatively increased; hence less mono-sodium phosphate and more di-sodium phosphate is produced, and as the latter is the normal solvent of uric acid, this substance, instead of being deposited in the tissues, remains in solution and is eliminated.—C. S. R.)

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## UROLOGY

Conducted by LEON T. ASHCRAFT, M.D.

**CHRONIC INFECTIONS OF THE MALE URETHRA AND ITS ADNEXA.**—H. E. Paul has investigated 100 cases to determine the length of time and the amount of systemic and judicious treatment necessary to effect a cure of gonorrhoeal infection. The patients were regarded as cured only when there was absence of urethral discharge and urinary disturbances, the urine was free from cloudiness, filaments, and shreds, the urethra was free from infiltrations, the prostate and seminal vesicles were normal on palpation, and the secretions of the prostate and vesicles showed not more than three pus cells in a high-power field on two films three to eight weeks after the treatment had been discontinued.

The average age of the patients was 27 years and the time elapsed since the last acute urethral infection varied from two and one-half months to twenty years (filiform stricture). The longest duration of treatment was forty-eight and eight-tenths weeks, the shortest five weeks, and the average eight and five-tenths weeks. About 60 per cent. of the patients had a urethral discharge before beginning treatment, and in 18 per cent. gonococci were demonstrated after treatment had been begun. Epididymitis was present previously in 24 per cent., and in 4 per cent. developed during treatment. Six cases showed a positive Wassermann reaction. In seventeen cases some operative procedure was done as part of the treatment.

The author concludes that every male with the slightest symptoms of residual gonorrhoeal infection is potentially infectious, and that gonococci may remain in the urethra or adnexa for years. In a large majority of cases these infections can be totally eradicated by appropriate treat-

ment regardless of the time that has elapsed since the original infection.—*Journal of Urology*.

**THE OPERATIVE TREATMENT AND PATHOLOGY OF ACUTE EPIDIDYMITIS.**—According to J. H. Cunningham and W. H. Cook epididymotomy is advisable in cases in which there is a severe local and general reaction and in cases of acute and subacute epididymitis. It causes rapid relief of the pain, greatly shortens the course of the disease, and exerts a beneficial influence on the inflammatory process in the seminal vesicles and prostate, thereby lessening the duration of treatment of these organs. Following the operation, recurrent epididymitis is rare and sterility is not greater than following non-operative treatment.

"This is the only objection which could possibly be raised against the operation. In an article which I published a number of years ago, on this subject, my conclusions were practically the same."

The pathologic study of epididymitis shows a rapid destructive process in the tubules and inter-tubular tissue. Swollen tubular epithelium, the accumulation of polymorphonuclear leucocytes in the tubules, proliferative activity of fibroblasts, and the formation of fibrin demonstrate a rapid process. The development of an abscess is frequent. The permanent defect in the tubules is shown by a cellular change in the epithelium, the lumen, and the contents. There is an increase in muscle fibers in the tubular wall.—*Journal of Urology*, 1922.

**SEVEN CASES OF BILATERAL NEPHROLITHIASIS OPERATED UPON.**—Louis Philip of Lyons. 1st. Nephrotomy, later pyelotomy on one side. The other side not operated upon. Death by progressive uremia. 2nd. Nephrotomy of the most affected side. Six months later calculus on the same side. Operation refused. 3rd. Nephrotomy on one side and five months later on the other. Progressive uremia, and death one year later. 4th. Nephrotomy on one side. Four years later anuria due to obstruction on the other side which gave way to ureteral catheterization with the passage of a calculus. 5th. Nephrotomy of the best side. Death from acute uremia. 6th. Successive nephrotomy on each side at an interval of twelve years between the operations. 7th. Nephrotomy on one side, nephrectomy on the other side three years later. It is difficult to make rules for cases such as the above. It is a matter of judgment on the part of the surgeon. A graver prognosis is called for if the two kidneys are simultaneously affected than if the first has time to recover before the other becomes affected. The most diverse treatment is possible. It is equally difficult to make a rule as to which kidney should be the first to be operated upon.

"By way of amplification, the location, and size of the calculus and the function of each kidney (ascertained by repeated functional tests) should be the deciding factor as to which kidney is operated upon first. It is poor judgment to operate on both kidneys at the same time. Pyelotomy is an ideal operation since it does not invade the kidney tissue to any great extent and is associated with very little hemorrhage, and because the incision in the pelvis usually closes quickly."—*Orologic and Cutaneous Review*, April, 1922.

**STRICTURE OF THE URETER AS AN EXPLANATION OF SOME OBSCURE ABDOMINAL CONDITIONS.**—T. M. Green finds the most frequent site of

ureteral stricture in the broad ligament portion. They are either congenital or acquired. Congenital strictures are considered rare by most authorities. The acquired type may be of extrinsic or intrinsic origin. The extrinsic causes are pressure on the ureter from neoplasms accessory or anomalous vessels of the kidney, and traumatism of the post-ureteral tissue. The intrinsic causes are tuberculosis, bilharziasis, calculus, malignancy, and pyogenic infection. Syphilis should always be borne in mind as a cause. Among the organisms found most frequently are the colon bacillus, staphylococci, streptococci, and gonococci.

The effects of stricture on the kidney and ureter are gradual dilatation and atrophy. Following dilatation of ureteral strictures the author has found some very encouraging results in lower blood pressure readings.

One of the most characteristic symptoms of ureteral stricture is pain. This may be acute or dull, constant or intermittent, referred to the pelvis, to the back, or the course of the ureter. With each recurring attack of pyelitis and with menstruation the pain is often aggravated. Other symptoms of ureteral stricture are gastro-intestinal disorders. The urinary signs are generally intermittent and consist as a rule of night voiding, day frequency, and tenismus.

The diagnosis is made from a history of abdominal pain, urinary symptoms, and positive urinary findings and by palpation revealing tender spots low down in the broad ligaments or at a point 1 inch to the outer side of the umbilicus on a level with the brim of the pelvis. The cystoscope often gives valuable findings, such as a urethritis, and occasionally actual ureteral stricture. The latter is always suggestive of a stricture of the ureter above. The mons ureteri sometimes shows a bullous oedema. When a catheter is passed a steady stream of urine is very suggestive of hydronephrosis and stricture. Another very definite diagnostic sign is the extreme pain when the catheter passes through the area of ureteritis or stricture. The most definite means of diagnosis is the passing of the catheter with a wax bulb, Hunner's method.

Finally, a pyelo-ureterogram serves not only to check up the possibility of hydronephrosis but demonstrates the presence of stricture and its location, as well as destructive and other changes in the kidney tissue.—*Surgery, Gynec. and Obstetrics*, 1922.

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#### OPHTHALMOLOGY

Conducted by WM. M. HILLEGAS, M.D.

**DIAGNOSIS OF GLAUCOMA.**—Colonel R. H. Elliot at the recent International Congress of Ophthalmology in Washington, D. C., stated that there are but two problems—(1) To ascertain whether glaucoma is present, and (2) to decide when surgical intervention should be undertaken. The diagnosis can always be made by one man if he will give the time and trouble to it; collective consultations are often worthless in these cases. One must not be hasty, especially in recurrent or chronic cases; it is only a simple matter in acute cases, when there also can be no doubt as to the treatment, a quick iridectomy or a trephine (in the discussion most leaned to an iridectomy). Careful, thorough and repeated examinations must be made so as to determine definitely the tension, the visual fields, the

diameters of the cornea, as well as the depth of the anterior chamber; these are most important even before cupping of the disc appears. True cupping of the disc is manifested by depression of the whole of its floor; aberrant types require careful observation. The halos of glaucoma must be distinguished from numerous other halos not due to the disease, but are most important in diagnosis if present, and so are the mists. The tonometer has established its position in glaucoma work; its indications are relative rather than absolute; its value is immense.

**MIGRAINE-TREATMENT.**—Lang, (*British Jour. of Ophthal.*), himself a sufferer, recommends hot fomentations to the back of the head when the attack is beginning, or if the headache stage has already begun, cold or iced applications to the same region; the hot fomentations upon the principle that the ocular phenomena observed in the early stage of an attack are directly dependent on a wave of contraction of the cortical occipital vessels, leading first to an impairment and then to a temporary loss of function of the cortex, and therefore to temporary partial blindness. It is further presumed that the contraction of the vessels is followed by their dilatation, allowing excessive blood to the region causing the intense headache and vomiting so usually associated with increased intracranial pressure. The hot fomentations are applied to cause dilatations of the vessels. If successful in this the first stage will be cut short and the second prevented. Cold applications are hoped to cause, either directly or reflexly or both, contraction of the dilated underlying cerebral vessels.

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## OTOLOGY

Conducted by JOSEPH V. F. CLAY, M.D.

**ELECTRO THERAPEUTICS IN AURAL DISEASE.**—Walter C. Barker mentions the fact that the application of electricity in the treatment of aural disease has been relegated to the background. This may have resulted because of the time necessary to carry out properly the various procedures and the lack of success in many hands. Electro therapeutics in any field requires more than a passing knowledge of the activity of the agent employed. Furthermore, perfection in technique is only acquired after a considerable experience. Another important factor in electro therapeutics is the proper care of the apparatus. The use of galvanic electricity in testing the static labyrinth and eighth nerve is acknowledged and priority in the original work is credited to G. W. Mackenzie. The reactions of the seventh nerve are carefully outlined. The technique of application to the Eustachian tube is very attractive.—*Journal of Ophthalmology, Otology and Rhinology*, August, 1922.

**A CONSIDERATION OF ACUTE AURAL DISEASES IN CHILDHOOD.**—Kauffman calls attention to the infrequency with which routine aural examinations are made and he believes that such examinations would solve the cause of trouble and safeguard the hearing function. In considering the etiology, particular attention is directed to the faulty method of blowing the nose; holding both nostrils tightly closed while forcible expulsive effort is made. Early incision of the membrana tympani is recommended in all cases when

the drum shows a tendency to bulge. This insures early drainage which is the best prophylactic against suppurative complications and future dull hearing.—*Journal of the American Medical Association*, July 15th, 1922.

**MASTOIDITIS HYPERPLASTICA SEROSA.**—Jervy calls attention to this type of mastoiditis which has heretofore not been described in aural literature. The symptomatology includes dull hearing, vague pains in the ear, headache, mild nervous imbalance, sense of bubbling in the ear. Locally, mastoid tenderness on deep pressure, a varying degree of redness and thickening of the posterior portion of the membrana tympani, some sagging of the posterosuperior wall of the canal, and a serous discharge. Temperature changes are lacking. Roentgenograms will show marked thickening and blurring without any break in the continuity of the mastoid cells but a solid haziness throughout the whole area. The operative findings are characteristic; the mastoid cells are filled with a clear serous fluid and the membrane thickened with evidences of extensive osteoporosis. Usual smears and cultures are negative.—*Journal of the American Medical Association*, July 29th, 1922.

**OTALGIA AND MASTOIDALGIA NOT INDICATIONS FOR OPERATIONS UPON THE MASTOID PROCESS.**—Lille of the Mayo Clinic, calls attention to this very important class of cases in which operation upon the mastoid, hastily executed, results simply in embarrassment of the operator and a continuation of the distress of the patient. These cases show upon careful observation with head mirror and aural speculum a lack of the usual local inflammatory manifestations of the typical case. The pain in these cases is referred along the third division of the fifth, less frequently the second and rarely the first. The most common seat is the auriculo-temporal nerve of the first division and at times it is located in the great auricular nerve. Three cases are reported in which cocainization of the sphenopalatine ganglion and in one case alcohol injection of the ganglion completely relieved the pain.—*Journal of the American Medical Association*, August 5th, 1922.

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## ROENTGENOLOGY

Conducted by WALTER C. BARKER, M.D.

**A PRACTICAL METHOD OF ROENTGEN EXAMINATION OF THE HEART BASED UPON A STUDY OF ONE HUNDRED NORMAL AND ABNORMAL CASES.**—These cases were examined and studied with the object of determining the best method for roentgenographic study of the heart. A comparison is made of all the methods reported in the literature and the results tabulated for the normal cases and those under the various pathological conditions present. The authors conclude that the roentgenoscopic examination is superior to the teleroentgenographic method. A thorough Roentgen-ray study embraces the consideration of four elements: The shape of the cardiac shadow, its size, its motion and a study of the aorta.

Changes in the shape of the pathological heart are due to relative enlargement of certain chambers as compared with other chambers and

these estimates are best made by the A-V ratio of Van Zwaluwenburg and the oblique positions of Vaquez and Bordet. The roentgenographic examination of valvular disease, adds a quantitative estimation to the qualitative findings of the stethoscope.

Danzer's method of cardio-thoracic ratio was found to be a grossly inaccurate index. The practicable methods of accurately estimating the cardiac size from the orthodiagram, are the one with the planimeter and the other that of Van Zwaluwenburg, which consists in comparing the product of the long and short diameters of the silhouette of the heart with that of a normal based upon the body weight. The most satisfactory expression of the cardiac area, is in percentages of the normal.

In studying the cardiac motion, its force, tone, coordination, rate, intrinsic motion of each chamber and the transmitted motion of the whole, is observed.

The study of the aorta gives evidence of changes due to hypertension, arteriosclerosis, lues and pathology of the aortic valve.—*Journ. of Roentg.*, May, 1922.

**NON-TUBERCULOUS INFECTIONS OF THE KIDNEYS.**—Moore states that the kidney may be infected by one or more of four routes, which are the hematogenous, lymphogenous, urogenous and that of contiguity. He states that Sweet, Stuart and Eisendrath claim that the infection is through the lymph channels, while Cabot and Crabtree think that all kidney infections are through the blood stream, but they do not deny the possibility of ascending infections. The author states that from some of his unfortunate experiences, he knows of infection to the kidney by the urogenous route and warns against ureteral catheterization in cases of acute cystitis.

The author describes the various types of bacteria which give rise to infections of the kidney and classifies the resulting inflammatory processes according to their location, as pyelitis, pyelonephritis, infected hydronephrosis, pyonephrosis and perinephritis.

In conclusion, the author states:

That every postoperative case requiring catheterization of the bladder, should be irrigated with some antiseptic solution before withdrawing the catheter.

That ureteral catheterization is indispensable in the diagnosis and treatment of kidney infections.

That every case of pyuria should have a bacteriological examination made of the urine, and in all chronic forms, the kidney function should be determined and a complete radiographic examination made.

That operation should be considered only after the failure of conservative treatment.

Editor's Note:—This article is profusely illustrated with pyelograms and roentgenograms of renal calculi. The author states that figure No. 4 is a pyelogram which fails to show multiple abscesses, although they were found in the kidney after its removal. However, the cut clearly shows the dilatation of the minor calices and the contraction of the true pelvis, which is always interpreted as an infection with destruction of the parenchyma of the kidney.—*Journ. Missouri Med. Assoc.*, 19: 104-111.

**TREATMENT OF GOITER.**—Hoag states that in reviewing the history of goiter, it was originally thought to be a medical disease, but the research work of Kocker made successful surgery possible. Later, experience with x-rays and radium therapy, have shown these therapeutic agents to be valuable in certain forms of goiter.

The author reviews the classification and symptoms of various types of goiters and states that the x-ray is not of value in the treatment of simple, colloid, calcified and cystic goiter, or simple or toxic adenomata, or malignant growths of the thyroid. This leaves the hyperplastic or exophthalmic variety of goiter in which the x-ray is of value.

He suggests that the only diagnostic measure that is useful as an indication for treatment is the basal metabolism observation.—*Calif. State Jour. of Medicine*, Jan., 1922.

**TREATMENT OF FOCAL INFECTION OF THE THROAT BY X-RAY AS COMPARED WITH SURGICAL REMOVAL OF TONSILS AND ADENOIDS.**—Witherbee states that the basis for the use of the Roentgen-ray in the therapy of the tonsil, is dependent upon the histological structure. Since the hypertrophied tonsil consists largely of lymphoid cells, and the small tonsil, of fibrous tissue of the embryonic type, and these two types of cells are atrophied by a smaller amount of Roentgen-ray than any other type of cells in the body, hence the rationale for this therapeutic procedure.

From the standpoint of relieving infection, this is not limited to the tonsil, because the lymphoid tissue in the lateral and posterior wall of the pharynx is also atrophied by the effects of the rays. This shrinking of the tissue relieves the distortion of the crypts throughout the entire mucus membrane, a condition which is not possible to produce by any known surgical procedure.

Of thirty-six cases in which the crypts of the tonsils were examined after Roentgen-ray irradiations for hemolytic streptococci and staphylococci, thirty-two gave sterile cultures. This corresponds with the results obtained in the treatment of acne vulgaris, carbuncle and the throats of diphtheria bacilli carriers.

Witherbee's technic is to have the patient lie face down upon the table, with the tube under the table, the position being the same as if the lower molars were being examined. Both sides of the neck are exposed at each treatment, and the average number of treatments is eight, given at two weeks intervals. The dosage is seven inch spark gap and five milliamperes of current given for four minutes through three mm., of aluminum at a target skin distance of ten inches.

If this technic is followed, there is no danger from burns and the results are permanent. When the proper protection is used, there is no danger to the pituitary, thyroid or parotid glands. It is the same procedure that has been used for years in the treatment of cervical adenitis.

The author reports a series of five hundred cases treated by this method, in two of which, a concealed abscess was revealed after the shrinkage. In both cases, the abscesses were walled off by fibrous tissue, and the rheumatic condition of which these patients complained, was relieved early in the course of the treatment. This method is especially indicated in the case of vocalists, haemophilia, chorea, diabetes, chronic endocarditis and any case where operation is contraindicated.—*Journ. of Radiology*, April, 1922.

## SURGERY

Conducted by J. D. ELLIOTT

**THE TREATMENT OF TUBERCULOUS CERVICAL ADENITIS.**—Miller reviews the various methods of treatment of tuberculous adenitis of the cervical glands and states the approximate method now carried out at the Massachusetts General Hospital is to first investigate and correct the hygiene and mode of living. The tonsils and adenoids are then removed, unless this is contraindicated. Acute abscesses are drained. Discrete cold abscesses without acute superimposed infection are opened through a small incision and drained for a few days with a small rubber tube. Patients with chronic discharging sinuses are treated with tuberculin plus the mercury vapor quartz lamp. Discrete localized glands are at the outset either removed or treated with tuberculin. Extensive disseminated glands, and those showing deep involvement, are treated with tuberculin. If this fails roentgen-ray is then tried and lastly operation.—*The Journ. of the Amer. Med. Ass'n.*, July, 1922.

**(CHOLECYSTOSTOMY OR CHOLECYSTECTOMY—WHICH?)**—Porter feels that this question is a pertinent one. He briefly reviews some of the data which point to the gall bladder as a valuable organ and the danger of the teaching that a healthy appearing gall bladder should be removed upon clinical symptoms. He states that routine removal of the gall bladder is based upon the following assumptions: 1. That the gall bladder is an unimportant organ and that its removal is followed by no untoward results. 2. That all gall stones have their origin in a "primary cholecystitis" and that recurrence or continuation of symptoms following cholecystostomy is usually due to the fact that the gall bladder was not removed.

The facts are: 1. All evidence at hand supports the contention that the gall bladder is an important organ and evidence is not yet at hand to warrant the conclusion that its removal leads to no serious consequences. 2. Cholecystic disease including gall stones frequently if not usually originates in the liver. Routine cholecystectomy frequently fails to cure and leads to the removal of healthy gall bladders in over 4 per cent. of cases. For these reasons the gall bladder should not be removed unless it has become useless or dangerous by disease.—*Surg. Gyn. and Obstet.*, July, 1922.

**SOME EXPERIENCES WITH THE "MELTZER-LYON" TEST IN GALL-BLADDER DISEASE.**—Cutler and Newton have carried out a thorough study of the Meltzer-Lyon test in a series of normal control patients and in pathologic cases. While many of their findings are similar to those of Lyon the authors feel that the theory has not yet been proven. Interest in this procedure as an aid in both the diagnosis and treatment of biliary conditions has become widespread. Already it has reached the hands of the general practitioner, and in spite of the difficulty of carrying through its correct performance is in actual practice by a large number of doctors. This is exceptional in a profession usually conservative and leads one to think that the many careful studies already reported, which seem to show that the knowledge the test may give is unreliable, are not generally recognized. It is possible also that the strong psychic appeal any such a



procedure must awaken in a patient has led doctors as well as patients into a false sense as to the real physical good this manoeuvre can give.

It is the opinion of Cutler and Newton that there is much to be proven before the so-called "Meltzer-Lyon" test can be accepted as of value in aiding diagnosis, that it should still be considered as only in an experimental stage, and its use should be discouraged by any except those who are qualified and equipped to study and criticize its value. It is by no means a simple test. Should one grant all that Lyon claims for it, to be exact, it requires X-ray apparatus, much time, repeated examinations on all cases, and elaborate bacteriologic and cytologic studies. The test depends upon the law of contrary innervation which must be proven before the test is accepted. At the present time the evidence would seem to show that syphonage is the principle factor in the defection of bile into the duodenum. Exactly what determines the intensity of the color of the bile remains a question. In their opinion dark bile comes from the gall bladder, and this accords with the recent work of Rous and McMasters and Harer, Hargis, and Van Meter on the concentrating ability of the gall bladder. They have never found real dark bile in cholecystectomized cases. However, the contentions of Einhorn and Meyer that the dark color is due to re-excretion of the salt or to destruction of red cells in the liver with the production of excess iron or the belief of Bassler, Luckett and Lutz that such color is due to an increase in the amount of oxidase must bear further study.

Their own experience has left them with the distinct impression that the test is not of dependable diagnostic aid. With its use in treatment, except for a few rare cases, they have had no experience. The lack of unanimity in the results obtained by different investigators is the best proof of the unreliable status of this test at the present time.—*Surg. Gyn. and Obstet.*, August, 1922.

**ACUTE HEMATogenous OSTEOmyELITIS.**—Starr in discussing acute osteomyelitis expresses the belief, based upon his experience, necropsy specimens, roentgen-ray findings and animal experiments, that the generally accepted pathology of this condition is not correct. It is usually stated that there is a rapid spread of infection from the primary focus in the diaphysis through the cortex to the medulla and a more slowly developed infection beneath the periosteum. The author believes that the primary infection in the diaphysis is well walled off, but the periosteum is quickly involved and the medulla is secondarily invaded from this latter focus through the nutrient arteries. Basing his treatment upon this hypothesis, Starr, in the early stage carries his incision only down to the bone and relieves the tension of the subperiosteal abscess. If such an abscess is not present he separates the periosteum for a small distance and makes three drill holes from the cortex toward the epiphysial line to relieve pressure in the bone and afford drainage through the cortex. He considers trephine openings into the medullary canal to be pernicious.—*Archives of Surgery*, May, 1922.

# THE HAHNEMANNIAN MONTHLY.

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OCTOBER, 1922

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## PRESIDENTIAL ADDRESS

BY CLARENCE BARTLETT, M.D., PHILADELPHIA

(Delivered before the Homœopathic Medical Society of the State of Pennsylvania,  
September 26, 1922.)

THE duty incumbent upon me, that of addressing you upon the past, present and future activities of this Society, is, needless to say, a pleasant one. More than that, it carries with it a high honor, which, equally needless to remark, is highly appreciated. Especially is this so, when one looks back over the years and notes the high character and sterling ability of my predecessors. Through their labors and those of the secretaries who have been associated with them in the work of the organization, the Homœopathic Medical Society of the State of Pennsylvania has been maintained on a high plane of efficiency; indeed, it may truthfully be said that there is no State Society in the country better organized than is ours. Perhaps this latter remark were better unsaid. It is an old saying that "comparisons are odious," for they surely excite disagreement with our many competitors. Felicitations are often out of place in that only too often they lead to a dangerous self-satisfaction, lack of initiative, and cessation of effort toward additional improvement. Nevertheless permit me to repeat that the Homœopathic Medical Society of the State of Pennsylvania is a "banner society," the honor of being president of which may well be coveted by any of us.

Just as our Society leads so does the College within our domain prosper, getting better year after year under the guidance of an able and efficient Dean. Much of the success which

has come its way, has been due to the efficiency of your Society, in that you have always thrown your support to it as you have to the other units of our organization. Needless to say, your future co-operation with the teaching arm of our profession is assured, for there is much work yet to be done. The way of the independent medical college in these troublous times is beset with difficulties. A few medical colleges, by reason of intrinsic merit and the loyalty of their alumni, and I am proud to say that the Hahnemann Medical College of Philadelphia is among the number, have survived. But, gentlemen of the Pennsylvania Society, these colleges—and your college, my college, is among the number—need endowments, for the expenses of conducting a modern college can never be met by the fees exacted of the students. Respecting endowments I fear very much that we have false ideas concerning the methods to be employed for securing the same. We have been too complacently resting on our laurels calmly awaiting some good angel to throw a million or two into our treasury, instead of maintaining a constant watch for the small contributions which in time must aggregate a sufficient sum of money for every purpose. Had this principle been recognized and acted upon twenty-five or more years ago, it is certain that Hahnemann College would have been one of the richest educational institutions within the realms of medicine. Let us not grieve over the past, but make amends for our derelictions by altering our policies for the future. The present offers a peculiar opportunity for reformation. Have not all of us ever had within our hearts a warm spot for that Grand Old Man who taught anatomy to all of us. You know I mean Rufus B. Weaver; who else could it be? His modesty in life has ever kept his "light under the bushel" with his merit recognized by his pupils and by the teachers of anatomy the country over. The Alumni Association of the Hahnemann Medical College of Philadelphia is now organizing a fund to endow in perpetuity the Rufus B. Weaver Chair of Anatomy. It is to be trusted that your Society will give the prestige of its support to the movement, and co-operate with the committee to be appointed by our Alumni Association.

The County Society is the unity of medical organization. Pennsylvania is fairly rich in county societies. None have been disbanded during the past ten years of disorganization. Some of them, it is true, have not been

supported as unselfishly by their constituents as their value warrants. Permit me to bespeak your support so that no one shall be eligible to our State Society until he has joined that of his home county when such society exists. As a corollary of this proposition, let us agitate as an important factor in organization that no physician should be accepted as eligible to the National Society until he has become a member of his State and County Societies.

The above may sound to you as arbitrary, but, gentlemen, it is only the enunciation of common sense principles. Without our National, State and County Societies, we as a learned profession could not exist. What is more, the public would suffer from an epidemic of quackery and charlatanry. Those who are not with us are reaping the advantage of our work, and should as soon as possible be induced to become of us. It is the County Society only that knows the individual ethical standing and can act as a sentinel for the National to prevent the admission of disreputable elements.

Two sad events have taken place since last we convened. I refer to the closing of the Homœopathic Departments in the Universities of Michigan and Ohio. An intelligent discussion of these calamities would of itself take all the time allotted me. Needless to say, however, it well opens up the question of the propriety of maintaining the homœopathic organization. To this question I am strongly in support of the affirmative. It is a pretty safe statement to make that we have within the confines of Pennsylvania about twenty million dollars invested in homœopathic institutions. This money has been contributed by the charitable and as trustees, it is our duty to maintain ourselves. Furthermore, we have a therapeutic principle—a guide for the selection of the drug in the cure of the sick—which must be elaborated and its materia medica modernized to meet the requirements of the advancing medicine of the Twentieth Century. Of this phase of the subject, more hereafter. But what is of especial concern to us, is that we today stand as a school of therapeutic optimism, as opposed to the school of therapeutic pessimism, which numbers, unfortunately, the great majority of medical practitioners of the day. That we do not really believe in our nihilistic heresies is shown by the readiness with which we consult the best prescribers when our beloved ones or ourselves fall ill.

This therapeutic pessimism is a far more serious proposi-

tion than appears at first sight. The many pet phrases utilized to indicate its existence have come within the knowledge of the laity, whose respect we have thus forfeited in part and who have given a large measure of their support to the drugless cults. If we are to cope with these latter gentry successfully in the future, it must be by infusing within the regular medical schools a proper sense of therapeutic responsibility. There should be no place for those who complacently say, "I do not believe in medicine;" or, following the illustrious and lamented Osler, "He is the best physician who knows the worthlessness of most drugs." Such individuals should be supplanted by others who are fully alive to the dictum that the "Duty of the physician is the prevention of disease and the cure of the sick." In other words, we must be practitioners of the healing art and not merely scientists or naturalists. The fact that we stand for therapeutic optimism is of itself a sufficient reason for our continued existence, providing we maintain a wise optimism based upon sound fundamental principles. It may be generally admitted that while, as a school, our therapeutic principle receives wide antagonism, our efforts have been so crowned with success that homœopathy is fast rising to the dignity of its general acceptance as a therapeutic specialty, which is a complete admission that it is an important principle for the selection of drugs in the cure of the sick.

In the past, we have as a separate school done much in the advancement of medical science. Hahnemann was certainly a great medical reformer. His existence advanced medical practice by a hundred years. Our work is not yet finished. Whether it be politics, religion or medicine, sectarianism has ever proven to be a good thing in stimulating rivalry and preventing excesses. The homœopathic school has acted as a strong minority party which has ever been productive of good. The mere fact that a physician believes in and practices the homœopathic principle for the cure of the sick, does not make him less the man of wide learning, for to his knowledge of drug action and its applications, he is within his province if he utilizes all the medical sciences.

It so happens that the talents of the physician are receiving greater recognition with each succeeding year. Unfortunately, certain quarters of the business world have been making energetic efforts to commercialize these talents by the organization of life extension corporations. Time will not per-

mit me to demonstrate the weaknesses of these various companies. Permit me to say that the best person to take up this work is the general practitioner who knows the most about the individuals who entrust themselves to his care. It is he who is best calculated to interpret their symptoms and physical signs. A wise old English physician once said that, "It is just as important to know the kind of a patient the disease has got hold of, as it is to know the disease the patient has got." If I were sick, I would much prefer to have a physician who knew me thoroughly and my disease but little, than one who knew all about disease and myself not at all. The family physician is so pre-eminently the proper person to make the periodic examinations required for the "life extension" principle, that I shall ask your body to draft a resolution to that effect, and appoint a committee which shall seek the co-operation of the Medical Society of the State of Pennsylvania, which meets in Scranton next week. To further the movement, a proper schema for the method of examination must be formulated, and this should be done forthwith, not next month nor next year, but now. Whatever ritual is adopted will be open to legitimate criticism and capable of improvement. Let us make a start, even without an official schema or questionnaire. Furthermore, the life extension movement having received the endorsement of both State Societies, suitable notice emanating from official circles should be posted in all physicians' offices that the public may learn that we are as anxious to prevent disease as to cure it. Some may object to the plan as commercial or unethical. Let us not be "thin-skinned." The idea is a good one, and can be put into practice only by properly organized official publicity. The "conventions" are good things, but may be carried to extremes, as in the case of the woman who refused to be saved from drowning because she had not been properly introduced to her would-be rescuer. If the movement is backed by our State Societies it will do incalculable good to the human race. Thus far it has been limited to two classes of beneficiaries; namely, the adult male population or the business world by the companies; and to school children by the school boards and health authorities. Let it extend to all. If we do not undertake it officially, it will be done by others, as witness the growing tendency to apply it as one of the departments of industrial medicine. Many large mercantile plants to-day make systematic and thorough phy-

sical examinations of their employees twice yearly. While the work done by the examiners is excellent, I am sure that it is far inferior in character to that which can be done by the regular family medical adviser. The industrial examinations, however are organized to increase efficiency and production rather than to conserve life.

This year is one fraught with important medical legislation. The special issue at this time is the chiropractic bill. The Pennsylvania Legislative Conference has gone on record as favoring the utmost liberality in therapeutic practice, and as opposed to lowering the standards of medical education. It so happens that the average chiropractic spends but a comparatively short time at his technic school, while his preliminary requirements are of a low order. It is known that some have acquired their sole medical knowledge from a six weeks' correspondence course. Two years ago the big fight was not against licensing chiropractic, but against letting loose on the community a hoard of uneducated practitioners. One of their advocates argued that if William Shakespeare or Abraham Lincoln had been obliged to hold a high school diploma to qualify for his life's work, we should never have heard of either of them; that, therefore, you can make a doctor out of an ex-bartender, ex-cook, or an ex-anything else. The issue this year will be the same, namely, the necessity for the maintenance of the educational standard. There are something like 150 regularly licensed chiropractics in Pennsylvania. In addition, it is claimed that there are somewhere in the neighborhood of an additional thousand of them practicing without the approval of the State Board of Licensure. If this is so, they are illegal practitioners, and are defying the laws of the Commonwealth. In this, as in most matters pertaining to medical legislation, it should be distinctly understood that medical license laws are for the benefit of the public. They are not intended to protect the medical profession. Unfortunately, there is too prevalent a notion among legislators that the laws are for the protection of the doctors only. Possibly we are to blame for this misconception. Certainly it is ourselves and not the public who pay out the good money for the protection of the latter. Possibly it is this fact that has caused the misconception. The pocket-book and the conscience coincide so frequently that it is unjustly assumed that the former always dictates the latter. It is to be hoped that the problem of medi-

cal education and licensure will ultimately be relegated to the department of education as taking the initiative in such a way as to prevent the biennial rows over the new drugless cults. If their followers are educated, let them in; if otherwise, keep them out. The unselfish attitude of doctors on legislative questions is well attested by the general position assumed by them in the prevention of disease and the furtherance of sanitation. It has been said truly that the medical profession is the only one ever engaged in cutting its own throat.

Publicity is a question that has interested this Society for many years. It is proper that it should be so. Publicity may relate to the individual, to the Society as a whole, or to the principles which the latter represents. Publicity of the individual should not interest us one iota. Unfortunately, it is the kind of publicity which has been forced upon the press, so much so in fact that doctors are accused of seeking covert advertising instead of going for it openly and paying for it at market rates. Personal publicity is not to be encouraged. Publicity for the Society and its principles is educational and should be encouraged, and unfortunately it is the kind which is the most difficult to bring before the public in a proper manner. The newspapers constitute a most important factor in civic progress. The home, the school, and the church are the three great factors in civilization. The character of the individual is made by the mother. The newspaper makes the community.

The public press has been much blamed for some of the things it prints. Unfortunately it sometimes forgets its power, and prints things as the result of misinformation, which are better relegated to oblivion. As I think over some of the subjects that have recently received extended notice, I wonder who is to blame. Monkey glands, bobbed hair among the nurses, the psychology of the eel, the cigarette smoking rooster, and the horse-hair cure of asthma, have in turn received extended notice on the front pages with large headlines. Is this deplorable state of affairs the fault of the newspapers? I believe not. The editors are but human. They want good material, and they take the best they can get under the circumstances. We doctors have been so averse to personal publicity, that we have not given them the proper co-operation. Possibly, too, we have seen so many undesirables imposing upon the credulity of the papers that we have refrained from making a practical entry into the field lest we be classed with those seeking free



advertising. The need for the medical education of the press and the public is attested by reference to the weekly columns of Tonics and Sedatives, a large portion of which is made up of the ludicrous mistakes of the reporters. Inaccurate information is deplorable. Newspapers know this and are anxious for the truth. We should give it to them. In so doing, let us elevate medicine to a higher plane than the study of monkey gland therapeutics, the prospective stock of chimpanzees, and the efficiency of nurses who bob their hair. Quite recently there appeared an article that discussed the supply of chimpanzees in Africa with the same degree of seriousness it gave in a neighboring column to the prospects of an adequate tonnage of coal for the coming winter.

Let us take this matter up in a business-like manner, and I am sure that we shall be received gratefully. If we wish for evidence of the *entente cordiale* of the press, we have none better than that afforded by the readiness with which they publish all the sayings of our own Copeland, or the popular writings of Rinehart and Hutchinson. The subject appears homely or handsome, according to its clothing. The statement that publicity requires money is nonsense. Publicity is not to be purchased. Give the papers the stuff, and they are with us. Insist upon publicity of the individual rather than of the principles, and we are up against a stone wall.

Lastly, I come to a subject that has been dear to my heart for many years. I refer to the investigation of the *materia medica*; or, if you prefer, the study of pharmacology. Four years ago I read before this Society a paper entitled, "The Modernization of Homœopathy." My dear friend, the late Dr. Wm. A. Seibert, while agreeing with my stand, criticized it to the extent of suggesting that it should have been entitled the "Modern Fixation of the *Materia Medica*," because homœopathy *per se* was ultra modern. It was the *materia medica* which required to be reconstructed to meet the demands of modern medicine. With this criticism I heartily agree, and blame myself for the oversight.

As already stated the learning and personality of certain leaders in the profession has led to an unjustifiable pessimism as to the efficiency of medicines. What is still more unfortunate, the public has become infected by the heresy, and is fully impressed with the idea that the future of medicine lies in a drugless therapy. If our position is bad enough, that of the

old school is infinitely worse. Is it any wonder that we are obliged to engage in constant combat with the many fads and fancies both within and without the professional ranks? The most recent of all old school *materia medica*s, that of Osborne, of New Haven, presents the entire subject of drugs and drug action in less than 150 not very closely printed pages. There must be a change. It would be perfectly proper to throw a doubt on the value of medicines had the subject been worked out properly in accordance with modern scientific advances. But this has not been done. Possibly we have been guilty of a crime even greater than neglect in that we have thrown into the discard many excellent remedies which appeared to give us good results twenty or more years ago, but we have just simply strayed away or gotten out of the habit of using them.

The study of drug action is not by any means a simple matter. I may take two excellent examples. The first is *digitalis*, which has engaged the best professional minds for over one hundred years, and yet to-day we are still learning more and more concerning it, and at the same time, there exists amidst high authorities some wide divergence of opinion concerning its method of action. The second example is *potassium iodide*, the therapeutic action of which is not denied by any one. And yet it so happens that thus far nothing has been discovered in the investigation of its action on healthy animals and humans to justify its beneficent qualities. So far as we know, its pharmacology is a confirmation of the *homœopathic* principle; so also is that of *digitalis*. The large doses used to obtain results does not negative this hypothesis.

It is evident, then, that even intensive study of pharmacology cannot yield immediate results. The subject thus far has been in the keeping of large pharmaceutical laboratories, the proprietors of which have at their service highly talented and well-paid staffs of investigators. This work, however, is done by them primarily for commercial results; if scientific results of lasting character are obtained, so much the better. The financial return within a reasonably short period is necessary. If, therefore, we are to have something to endure, it is evident that we must have well endowed pharmacologic laboratories in connection with our teaching institutions. The abilities of the investigators must be of an extraordinarily high order and with their abilities tested they must have permanent tenure of office. Their work must be checked by association with

well-trained pathologists, physiological chemists, and clinicians of analytic minds. Some would contend that the latter will do more harm than good in the study of pharmacology, a fallacy surely, for there is no greater laboratory than that of clinical observation and experience. The main thing is that the clinician shall observe correctly.

Recent studies have placed too much dependence upon the use of animals for the study of drug action. Such studies are all right, if not misused. To be of value in the treatment of the sick, drugs must be studied from the finest standpoint. This means that subjective symptoms which Sir James Mackenzie and his followers have just discovered constitute the earliest evidence of ill health, must be studied. These are obtainable from experiments on humans only. I might elaborate on this subject indefinitely, but refrain. I am not alone in expressing the longings for the establishment of a real pharmacologic laboratory. Within the past two years, Rountree, of the Mayo Clinic, has suggested an endowed National Drug Research Laboratory. The Philadelphia College of Pharmacy, under Braisted, is elaborating plans for an extensive institution for the purpose.

With the production of a pharmacology, or, if you prefer, a materia medica, 100 per cent. free of sins of omission and commission, you can readily see how our difficulties will vanish. Failure because of faults with our tools will disappear. With such a materia medica, including within its pages a full disquisition upon subjective and objective symptoms or effects, it is plain that the medicines may be utilized in any way according to the bent of mind or judgment of the prescriber.

But members of the Homœopathic Medical Society of Pennsylvania, I fear that I and those who have my ambitions, are but building castles in the air, the approach to which is made up of a lane along the line of the rainbow. Some idealists have already started on the journey towards the unknown therapeutic castle. They have the confidence and enthusiasm of all explorers, but their equipments or facilities for the travel are necessarily more or less inadequate, because they know not what is required of them in this land of daylight dreams. Money was poured into darkest Africa, at first for scientific or geographical research. To-day that land of darkness has become a world of miracles.

In closing, I will ask your forgiveness for speaking at

such great length. Let my apology be that of the small boy who admitted that he had done badly, but brightened up as he said, "You do not know how much worse I could have been and wanted to be."

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#### REPORT OF COMMITTEE ON PRESIDENT'S ADDRESS

AFTER careful study we feel that Dr. Bartlett cannot be commended too highly for his able address. He has shown a wonderful insight into matters medical.

Your committee has considered carefully the suggestion that the Homœopathic Medical Society of the State of Pennsylvania co-operate with the committee to be appointed by the Executive Committee of the Alumni Association of Hahnemann Medical College of Philadelphia, to raise and have charge of the fund for endowing the Rufus B. Weaver Chair of Anatomy, and we recommend to you that as a means of supplementing the moral support of this society with material support that the Rufus B. Weaver Fund Committee be asked to include among its members an official representative of this society, said representative to be appointed by the President.\*

We urge that the recommendations relating to memberships in County, State and National Societies be put in force just as soon as it is possible to make the necessary changes in our by-laws, and that we instruct our delegates to the American Institute of Homœopathy and Congress of States to secure similar action by the American Institute of Homœopathy. The benefit to be derived from such action is obvious to all.

We endorse the remarks in reference to The Life Extension Movement, and we believe that we should adopt the President's recommendations as our policy; that a copy of the address relating to this subject be submitted to the President and Trustees of the Medical Society of the State of Pennsylvania requesting their favorable consideration; that this copy and our recommendations be delivered in person by one of our members. Dr. Robert V. White, of Scranton, has consented to act for us should our recommendation meet with your approval.

Respectfully submitted,

JOHN C. CALHOUN, *Chairman*;  
W. C. SEITZ.

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\* The Chair later appointed Dr. John C. Calhoun, of Pittsburgh, as the State Society representative on the committee.

**NEURITIS OF THE EIGHTH CRANIAL NERVE WITH PARTICULAR REFERENCE TO THE SYPHILITIC FORM**

BY GEORGE W. MACKENZIE, M.D., PHILADELPHIA, PA.

(Paper read before the Ohio County Medical Society of Wheeling, W. Va., April 14, 1922.)

NEURITIS of the eighth nerve involving the cochlear branch produces deafness. Neuritis of the vestibular branch produces disturbance in equilibrium with more or less vertigo and rhythmic nystagmus, depending upon the degree of involvement and whether one or both sides are involved. Neuritis of the eighth nerve may exist alone or in conjunction with neuritis of other cranial nerves. Neuritis of the eighth nerve may occur in one or the other of its two branches or in both branches simultaneously. The inflammatory process may be limited to the trunk of the nerve or may extend to the inner ear, when we prefer to speak of the condition as neurolabyrinthitis. In beginning neuritis the symptoms presented may suggest an irritative process—hyperaemia—in a more advanced case the failure of the nerve to react may suggest a destructive lesion.

Neuritis of the eighth nerve may produce symptoms identical to those presented by other lesions capable of producing a destructive pressure on the nerve, such as intracranial tumors, gummatas and brain abscess.

The first aim of the diagnostician is to locate the site of the lesion, next to determine the degree of involvement, and finally to ascertain the cause and remove it. Let us consider these objectives in their respective order as far as time will permit.

All general practitioners of medicine have at least a speaking acquaintance with nerve deafness. They have been taught to recognize the fact that those deaf individuals who speak softly do so because they hear their own voice louder than normal hearing individuals. In other words, they have a bone conduction exceeding that of the normal. This is one of the most characteristic findings in *middle ear disease*. The general man has been taught, too, to recognize the fact that those deaf individuals who speak loudly do so because they hear their own voice much weaker than the normal hearing individual. That is to say, they have a bone conduction less

than normal. This is one of the most characteristic findings of *inner ear or nerve disease*. Again, the general practitioner is more or less familiar with the fact that in nerve deafness the loss of hearing for the high tones is marked, whereas in middle ear deafness the hearing for high tones is preserved while the hearing for low tones is markedly diminished. Although a knowledge of these several facts would seem to be quite sufficient for the purpose of locating the site of the lesion in case of deafness, the specialist in otology feels that there is need for additional diagnostic aids, especially in those cases of deafness due to mixed conditions, that is, the combination of middle ear and nerve deafness. Besides, it is essential for the otologist to be able to diagnose whether the nerve deafness is a primary process or one that is secondary to a middle ear disease, or whether the two conditions are independent processes. Again, if they are independent processes it is important to know which is the more recent one. For instance, suppose an adult patient should call on the otologist, and after a careful functional examination, it is found that he has a mixed condition (middle ear and nerve deafness). It may be that the patient's hearing was affected in childhood from a middle ear catarrh which has since ceased to be active and recently, because of syphilis or some other toxemia there is a further drop in the hearing function. To treat the patient for his old middle ear catarrh and neglect to treat his recent syphilis, the cause of his nerve deafness, would avail but little, whereas the treatment of his syphilis would avail considerably. On the other hand, take the case of an adult who has been more or less deaf since infancy, the result of inherited syphilis, and more recently there is a further diminution of hearing, the result of a superimposed acute middle ear catarrh. To treat such a case for nerve deafness alone would be misapplied treatment and would avail nothing, whereas the treatment of the acute middle ear catarrh would promise considerable improvement, at least up to that amount of hearing which the patient had prior to his recent attack of middle ear catarrh. In still another case where there are findings pointing clearly to a mixed condition there may have been a primary middle ear suppuration with secondary internal ear involvement, (1) acute serous labyrinthitis, (2) acute suppurative labyrinthitis, or (3) chronic plastic labyrinthitis. There are still other problems which I will not burden you with at present for enough

has been cited to show the importance of making use of every possible aid in locating the lesion and determining the order of sequence in the mixed conditions.

The functional hearing tests most commonly used for the purpose of locating a lesion responsible for deafness are the Weber, Schwabach and Rin  . These are valuable tests when properly understood and applied. The finding in these three tests are the very opposite in the case of middle ear deafness and in the case of nerve deafness.

The Weber test is made by applying the handle of a vibrating middle tone (256DV) tuning fork to the mid-line of the skull. In middle ear deafness the Weber lateralizes to the worse hearing ear, because the bone conduction is better on that side. In nerve deafness the Weber lateralizes to the better hearing ear, because the bone conduction is worse on the affected side.

The Schwabach test is made by applying the handle of the same vibrating fork to the mastoid process and noting the difference in the hearing ability of the patient as compared with that of a normal hearing individual, used as a control. In the case of middle ear deafness the patient hears the fork better than normal, that is to say, he hears the fork after the control ceases to hear it. In the case of nerve deafness, on the contrary, the patient hears the vibrating fork on the mastoid more poorly than the normal, that is to say, after the patient ceases to hear the fork the control continues to hear it.

The Rin   test is made by comparing the patient's bone conduction with his own air conduction. Normal individuals hear the middle tone fork longer by air than by bone conduction in which case the Rin   is designated positive. In the case of pronounced middle ear deafness the patient's hearing by bone is better than by air conduction which is the reverse of the normal condition, and is, therefore, designated a negative Rin  . In the presence of nerve deafness the patient hears better by air than by bone conduction, and the Rin   is designated positive similar, but not identical to, that which is found in the normal. The difference being that in nerve deafness both air and bone conduction are less than normal.

A summary of comparisons is herewith presented :

Middle Ear Deafness also referred to as Disease of the Conducting Apparatus.	Inner Ear of Nerve Deafness also referred to as Disease of the Perceiving Apparatus.
(1) Weber (fork on mid-line of skull) lateralizes to the worse hearing ear.	(1) Weber lateralizes to the better hearing ear.
(2) Schwabach (fork on mastoid) test is lengthened.	(2) Schwabach is shortened.

\*(3) Rinné is negative. (3) Rinné is positive.

Our next objective is to determine the degree of involvement. This can be done at the same time and by the same methods used in locating the lesion. The degree of involvement is commensurate with the amount of loss of hearing. The remaining problem is to determine the cause. We may conveniently divide them into four groups as follows:

1. Post-acute infectious group.
2. Chronic infectious group.
3. Toxemias of exogenous origin.
4. Toxemias of endogenous origin.

(1) *Post-acute Infectious Group*.—The general practitioner is familiar with post-diphtheritic paralysis which is occasionally fatal in its consequences; they are, perhaps, less familiar with eighth nerve neuritis following diphtheria. The fact is that eighth nerve neuritis may occur in the course of any one of the acute infectious fevers, perhaps more often in the course of influenza and typhoid fever. Besides neuritis these two diseases are prone to produce hemorrhagic blebs on the tympanic membrane, showing that they have a selective affinity for the organ of hearing. The acute middle ear inflammations are a not uncommon complication of the acute infectious fevers, especially scarlet fever and measles. We see, therefore, the necessity of the tuning fork tests in the differential diagnosis of middle ear and nerve deafness accompanying this class of diseases. In some cases of impairment of

\*I have designated the Rinne as negative in middle ear deafness, and positive in inner ear and nerve deafness for the reason that authorities generally accept this view; however, we meet rare cases in which we find the Rinne positive in middle ear deafness and negative in nerve deafness. Since this paper is presented to the general practitioner and not to the specialist it was thought best not to go too deeply into the more intricate problems.



hearing following the acute infectious fevers the impairment may be due to a combination of middle ear inflammation and neuritis occurring as two separate processes having no association whatsoever. For example, in the course of scarlet fever there may occur suppuration of the middle ear due to the spreading of pyogenic organisms from the naso-pharynx to the middle ear, again the toxic action of general infective agents may act upon the nerve elements resulting in neuritis independently of what may be taking place in the middle ear. The prognosis of post-acute infectious eighth nerve neuritis is generally favorable.

(2) *Chronic Infectious Group*.—Neuritis of one or another of the cranial nerves is prone to occur in the course of the so-called chronic infections. By the chronic infections are meant those disease conditions which do not tend to produce pus, but rather a round cell infiltration in contradistinction to pyogenic infections which produce polynuclear (pus) cell infiltration. The chronic infections include syphilis, tuberculosis, leprosy, leukaemia and some other less common diseases. These diseases are prone to produce neuritis of the cranial nerves, especially the sensory, and of these the eighth nerve appears to be the most vulnerable. Neuritis of the eighth nerve is so prevalent during the secondary stage of syphilis as to prompt some investigators to believe that more or less involvement of this nerve is never missing. That so few cases of syphilitic neuritis come to the attention of the average physician is due to the fact that usually antiluetic treatment is indicated and administered sufficiently early, on account of more striking symptoms referable to some other part of the body, as to abort any serious involvement to the eighth nerve. In a smaller number of cases of syphilis the most striking signs of the disease are the symptoms referable to the eighth nerve.

The accumulated data concerning the pathology of syphilis of the eighth nerve is already considerable. Practically all investigators, who have made a careful study of the post-mortem findings in syphilitic babes, have found involvement of the meninges extending to and involving the eighth nerve, which bears out the contention of the researching clinician, that in practically all cases of pronounced generalized syphilis there is some involvement of the eighth nerve. Syphilis may affect the hearing apparatus, including the eighth nerve, in more than one way, which the time limit will not permit us to consider now.

It is conceded that generalized syphilis may hit either the vestibular branch of the eighth nerve alone or the cochlear branch alone. More often, however, both branches are involved, the cochlear more intensively than the vestibular. When secondary syphilis involves the eighth nerve to any considerable degree we generally find both sides affected, for the reason that secondary syphilitic lesions are characteristically bilateral; while tertiary manifestations tend to be unilateral.

(3) Toxemias of exogenous origin produce more or less deleterious effects upon the eighth nerve. The number of poisons which are capable of producing neuritis of the eighth nerve are legion. The more familiar ones include lead, mercury, arsenic, methyl, alcohol, carbon dioxide, carbon monoxide, illuminating gas, quinine, salicylates and aspirin. The action of these various poisons varies somewhat. Most of them produce bilateral involvement, a few appear to have a selective affinity for a particular side. The prognosis in this group is variable, depending upon the noxious agent and how long it has been at work.

(4) Toxemias of endogenous origin affect the eighth more often than any other of the cranial nerves and quite as often as the spinal nerves. This is the group that at different times has been referred to as the rheumatic, gouty, refrigeratory and even idiopathic. Today we recognize them as rheumatoid and of focal infectious origin. They comprise an important group from the numerical standpoint. The lesions are more often unilateral in contrast to the bilateral lesions of secondary syphilis. In unilateral cases the causative factor, four times out of five, is a focus of infection. In the bilateral cases the causative factor, four times out of five, is secondary syphilis.

The unilateral cases of this fourth group are exceptionally amenable to proper treatment, that is, the removal of the focus of infection.

The writer has not touched upon the symptomology of vestibular branch neuritis for the simple reason that it is a subject in itself which one could not take up with any degree of satisfaction in a full hour; besides, enough has already been touched upon to allow a free discussion. The paper was prepared especially for the general practitioner in the hope of interesting him in an important, though much neglected, subject.

1724 Spruce Street.

**THE RESULTS OF TREATMENT OF LATERAL CURVATURE OF THE SPINE****JOHN A. BROOKE, M.D., PHILADELPHIA**

(Read before the Homœopathic Medical Society of Pennsylvania, Sept. 26, 1922.)

It is because of the somewhat hazy idea that the average medical man has of the treatment of scoliosis and the results that may be expected when the treatment extends over a period of time, that the writer has attempted to bring this subject before you.

Is it surprising that the doctor who treats his case according to a recognized method or who refers a patient to an orthopedist becomes discouraged when after treatment lasting from six months to a year, there is no improvement recognizable, or perhaps the deformity has increased?

The findings of the somewhat recent Scoliosis Committee of the American Orthopedic Association, has not given us much encouragement. This committee, which visited the various large cities of this country, and who investigated the results shown by the best known orthopedic men, report that no cure of structural scoliosis in the anatomical sense was observed from any method of treatment.

Most of our authorities fail to give us much hope as to cure. Whitman, in his latest work, says that confirmed lateral curvature in most instances is an incurable deformity.

A few years ago Dr. Abbott, of Portland, announced that the problem of efficient treatment had been solved and made the statement "That fixed lateral curvatures of the spine yielded to treatment as easily as bow-legs or club feet. Further experience has led me to believe that this deformity yields more readily than either of the others."

The novelty of the method, applying principles which seemed correct and the astonishing results claimed, attracted wide attention. Now after some years have elapsed, we realize that it was the enthusiasm of a new method and the unjustified claims that gave it the great prominence it received and not the results obtained.

In dealing with this subject, which is perhaps one of the most difficult in orthopedic practice and in view of the discouraging statements given out, what can we promise our patients or the doctor who refers his case for treatment?

Before giving a definite answer we must determine if it is a fixed lateral curvature of the spine or merely a deviation caused by faulty posture, muscle weakness, habitual position, tilt of the pelvis, etc.

We recognize the two definite types:

(1)—Functional, postural or false scoliosis, a deviation due to a faulty attitude which disappears when suspended, when lying down, or changing the position.

(2)—The structural, organic or true scoliosis, in which there are definite changes in the bony structure with fixed deformity that cannot be altered by position.

Of the first type, the functional scoliosis, we can promise a most satisfactory result if we can get the co-operation of the patient and the parents and they are willing to persist in the proper exercises over a long period of time, perhaps supplemented by brace or other support. The structural scoliosis with the fixed deformity, is the *bete noir*.

It is necessary to understand just what one expects to accomplish and not promise what at present seems impossible. In true scoliosis—rotation means fixed deformity—the anterior portion of the spinal column is more displaced laterally than are the spinous processes because lateral bending is always accompanied by rotation of the vertebral bodies toward the convexity of the curve, the spinous process turning in the reverse direction. Thus considerable deformity with marked rotation may be present with but slight lateral deviation of the spinous process.

The recognition of a well developed scoliosis is very easy, in fact it is self evident to one who will look at the back exposed from the neck to the buttocks fold.

On examination one should note the body outline, whether symmetrical or not, comparing on both sides the outline from axilla to iliac crest; whether one is flatter or more curved than the other, note the level of the shoulders, the position of the scapulae, the prominence of one hip, and the tilt of the pelvis. Determine if the anteroposterior curves are normal, and what lateral deviation is present. It is perhaps easier to mark the spinous processes by ink or pencil and note the deviation from a plumb line held behind the patient, the lower part lying in the cleft of the buttocks. If the patient now bends forward until the trunk is horizontal, the examiner will notice if the

one side is more prominent than the other: any upward prominences represent rotation or twist.

In order to estimate the spinal flexibility the patient should lie face downward. The marks on the skin represent the curve of spine in the erect position and any straightening of spine in recumbency will be shown by a lessening of the curve. In postural curves the spine is straight in recumbency, while structural curves will be somewhat less than in the erect position. If the patient is now suspended from a Sayre head sling, some straightening of the spine will be noted and will give us some idea of the improvement that can be expected from treatment in an individual case.

Lateral curvature in a young child is of far greater importance than of an older subject, because in the child during the growing period, the deformity will likely increase while in the adult it is usually stationary. In childhood there is no pain nor discomfort hence the deformity is often passed unnoticed.

The X-ray is of use in showing:

- (1)—The existence of bony defects or anomalies of the spine.
- (2)—The degree of distortion of the individual vertebrae.
- (3)—The degree and character of the curve and amount of rotation.

In scoliosis, especially in the severe forms, a shortening of the trunk is apparent which prevents normal development and function of the internal organs. By lateral displacement of the trunk and rotation of the thorax, the pleural and abdominal cavities become distorted. The patients are usually anemic and disposed to pulmonary disease. Hypertrophy and dilatation of the heart are frequent. The intestines may be crowded into the pelvis with displacement of the colon.

Successful treatment of rotary lateral curvature aims at:

- (1)—Stopping the deforming process.
- (2)—Materially lessening existing deformity.
- (3)—Reasonably assuring the non-return of the deformity.

How can these aims be accomplished?

- (1)—By corrective plaster-of-Paris jackets with pressure paddings and negative window spacing.

(2)—By special exercises with retention brace or corset of plaster or celluloid.

(3)—By operative procedure for stiffening the spine at the arc of the greatest deformity.

Our method of treatment for the average case is as follows:

About two or three weeks of physiotherapy; this includes massage and special exercises to limber up the back muscles and stretch the ligaments, so that when our attempt is made to correct the deformity, we have little muscular resistance to combat.

Next the patient is suspended and a plaster jacket is applied with all positions reversed as much as possible. For example, the convex side has the high shoulder carried forward. When the plaster-of-Paris is put on, the opposite shoulder is elevated and the high shoulder is pulled down and thrown back. The hips and the upper portion of thorax are fixed by bands to vertical posts. A large thick pad of felt is placed over the part of greatest deformity and a degree of corrective pressure made by a broad band of muslin. When we have a double curve to deal with felt pads must be placed on both sides and pressure made in opposite directions at the two points. These plaster jackets are distinctly corrective but pressure forces must be within the limit of comfort. As soon as the plaster is fairly well set it is trimmed at top and bottom and large window spaces cut out on the side opposite the deformity, so as to allow this portion of the trunk to bulge through the opening. Then every few weeks thicker pads are applied over the deformity to force it in the opposite direction. The plaster jackets are changed every three months, sometimes oftener, and reapplied in the same way. This corrective treatment lasts about a year, sometimes longer. Then we are ready for the removable jacket of plaster or celluloid. It is usually referred to as the plaster corset. It is put on with the patient in suspension and with moderate corrective force. It is split down the center and removed. When thoroughly dry it is faced with leather and eyelets inserted. These corsets are worn night and day at first and then left off at night, later worn part of the day and to be gradually discarded.

When the plaster jacket is first applied we have the patient partly suspended at regular intervals so as to stretch the spine. They are encouraged to breathe deeply and force the part

opposite the deformity through the window in the plaster. As soon as the removable jacket or corset is applied, the intensive exercises are begun. This muscle training is to develop muscle strength for natural support in the somewhat corrected position and to prevent a return of the deformity, for it is easy to slump if no effort is made at correction.

The exercises advised are varied and given in different positions: Standing, kneeling, lying prone, lying on back, half-prone, lying at end of table and sitting.

In a certain type of scoliosis, those dependent upon paralysis of certain groups of back and abdominal muscles resulting from anterior poliomyelitis, we must resort to something more than exercises with muscle training if we wish to ever discard the corset or back brace. Here we have the weak or paralyzed muscles on the one side opposed to the strong muscle pull on the other side; the result is the severe type of scoliosis with a very marked deformity.

The method that seems to promise the most in these cases is the fixation of the spine over the area of deviation by operative procedures, the object being to get a firm ankylosis of spine over the entire arc of curvature. We have followed two methods of bringing about this result:

(1)—That outlined by Dr. Albee, which is the tibial bone grafted implanted by the side of the denuded spinous processes.

(2)—The method of Hibbs, which bares the spinous processes and the lamina, stripping back the periosteum, curetting the lateral articulations at the base of the transverse process, raising a thin slice from the lamina, and turning it down to the one below, fracturing the spinous processes and forcing one down upon the other as shingles on a roof. The principle being, fresh bone against fresh bone to secure a fusing of the entire area. These two operations are of nearly equal value. The bone graft having this in its favor, it can be more quickly performed.

The spinal stiffening by operation is only resorted to after we have obtained our maximum correction by plaster jackets and stretching over a period of time in a modified Bradford frame.

SUMMARY.—Definite cures can be promised in nearly all functional or postural curvatures, if the treatment is persisted in.

In structural scoliosis much depends upon the age of the

patient, the degree of the deformity, and changes in the bony structure, but there are very few cases in children and adolescents that will not be decidedly benefited by appropriate treatment.

(1)—There will be a marked lessening of the deformity.

(2)—An improvement of the general health with increased resistance to disease generally.

The pain and discomfort that is present in a large percentage of the cases in adults will be relieved by support and exercises, even if the curvature is not corrected. In growing children the tendency is for the deformity to increase if it is not held in check by treatment. It is very unusual for cases to improve without treatment.

In cases due to paralysis it is necessary to wear support continuously or resort to operative measures to stiffen the spine.

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## THE AMBULANT TREATMENT OF FISTULA IN ANO

JAMES D. SCHOFIELD, M.D., PHILADELPHIA

(Read before the Homœopathic Medical Society of Pennsylvania, Sept. 26, 1922.)

IN presenting this paper the author does so with the feeling that it may be of some assistance to that great mass who were as unfortunate as he in their early college training in the special field of Proctology.

Diseases of the rectum have been, and still are, in a great many colleges dismissed with a single lecture or two, delivered as a part of the course on general surgery. The young graduate leaves his Alma Mater with a hazy idea that occasionally patients may suffer from "piles or fistula," and an operation under general anesthesia is their only hope of relief.

The fact that the profession as a whole has been so remiss in the treatment of rectal diseases has left the field in the past to the quack and the irregular, especially in regard to ambulant treatment.

It is a well known fact that there are a greater number of years stolen from human lives by the persistent robbery of rectal diseases and conditions than by any other influence. This explains why so many pernicious preparations are flood-



ing the market, alleging to cover these conditions, because the general public has not found satisfaction in the legitimate medical world.

Fistula is found in at least one-third of all the patients coming to a rectal specialist for treatment, and in many instances exists without the knowledge of those possessing it. Hospital records usually place fistula first in point of frequency, but this is due to the fact that many persons having hemorrhoids, do not apply for hospital treatment as readily as those afflicted with the more serious condition of fistula. Fistula and hemorrhoids are often present in the same patient.

There are several influences which are responsible for the reputation which fistula has for chronicity, and they have to be reckoned with in formulating treatment. They are, improper drainage, the unfavorable effect from absorption of the septic matter, and the state of unrest produced by the spasmodic contractions of an irritable sphincter.

There is in the public mind a prejudice against operating for the cure of fistula, which is not entirely due to the general dread of operations, but to an old superstition which has been handed down from generation to generation to the effect that it is poor policy to invite a greater danger by the removal of a lesser. Unfortunately tradition fails to give details and it has never been ascertained what greater danger is implied, but I half suspect it has reference to fecal incontinence, a calamity that was frequent in the early days of surgery for this trouble. Kelsey has aptly said: "Fecal incontinence is always considered by the patient a very poor exchange for a fistula."

The operator who is able to secure the same result that follows the successful surgical operation, performed under general anesthesia, with no shock, no anxiety, little inconvenience or pain, without confinement and separation from friends or family, and with but little detention from business or household duties, not to mention hospital expense, by the employment of conservative methods of which the technique is definitely formulated, holds within the compass of his skill that which is destined to popularize a treatment among an invalid class, to which many unfortunates belong.

Tuttle in his work on Diseases of the Rectum, makes the astounding statement that a "search of the hospital records reveals the fact that while nearly all the cases of fistula treated are said to be improved, less than 4 per cent. out of 2196 cases

collected, are even claimed to have been cured." These statistics do not distinguish between the different varieties anatomically, or pathologically, and therefore no positive conclusions can be drawn from them. It is reasonable to suppose those of the simple subtegumentary type were all cured. Assuming this to be true, the percentage of failures in the other cases will be largely increased. If these patients had been cured it would have been entered on the Hospital Records and, therefore, it is concluded that the treatment for this condition in general hospitals is far from satisfactory.

There is of course, no reason to suppose that results like these follow the operations upon private patients, in anyone's practice, but the record lends a reasonable aspect to the popular revulsion against the "recognized" modes of treatment, and with others showing a similar percentage of failures, contributes an ideal foundation upon which the conservative operator can build.

Conservative surgery, the limitations of which have been so greatly extended, because of the almost unbounded possibilities of local or regional anesthesia, offers by far the most attractive prospect, when considering the selection of a method to be employed in an effort to cure a large per cent. of fistulæ.

The complete division of the tissues between two openings of a fistula by means of the knife or other cutting instrument, is the standard operation, and the one of choice where the canal is very deep and the danger from hemorrhage would be great. The principle, of course, is the correct one, notwithstanding the results following its application are often unsatisfactory due to the fact that the parts are massed with blood and pus and sinuses are overlooked. Without losing sight of the principle and without offering any suggestion of variance with it, the following technique is submitted as a distinct advance in the treatment of this condition in the cases appreciable to it. The immediate advantages to the patient have already been enumerated. To the operator it offers a method of treatment which can be carried out in his office, and practically without an assistant. Viewed from the standpoint of final results, it shows a percentage of actual cures considerably higher than can be reasonably expected from any other plan, if present statistics can be taken as a criterion. This statement will be disputed I suppose, unless satisfactorily supported. Therefore the most prominent points of difference between

the method of immediate complete division of the tissues, and the same procedure accomplished by gradual division will be mentioned. First, the cutting through of the entire fistulous tract, together with the branches, which frequently complicate the condition, necessitates quite extensive injury to the integument and adjacent tissue, which requires considerable time to heal and enforces confinement. Second, it must be remembered that nearly all fistulas are the result of abscess and apart from those due to traumatic cause in the otherwise healthy individual, abscess formation indicates an organism which has been depleted for a long time, with lowered vitality and poor disease-resisting power. Those in which the abscess has been preceded by proctitis and the system for many years vitiated by the absorption of its products, are especially deficient in that which promotes repair. Under such circumstances extensive tissue destruction is frequently the beginning of a protracted semi-illness, during which the long healing period is most disturbing. Third, the frequent necessity for a second or third operation, (those doing hospital work need not be reminded of the large number of patients in whom a second or third operation is necessary), each operation causing a repetition of anesthesia, confinement, and slow, tedious convalescence. The reason for this lies in the irregular and complex course the branches which connect with the main tract take, the latter being the only one apparent to the operator. When such conditions are present it is beyond the ability of the operator to comprehend fully the extent of the various tracts, and as a result an incomplete operation is inevitable.

By the gradual cutting method this oversight should not occur, as all branches from the main tract will be disclosed during the treatment and are treated the same way, at the proper time. As to healing it may be said that the wound is never extensive enough to need extraordinary reparative powers, and the interval between treatments can be lengthened as necessary in the judgment of the operator. The parts which have already been opened will not require the same attention again, the fistulous opening simply being transferred to another point in the direction of the course of treatment.

Technique.—The position of the patient is determined by the location of the external opening, at which point the treatment is always begun for the purpose of enlarging the aperture to permit free drainage and irrigation. The point of operation

should be below the level of the anus, as it is inconvenient to operate in an unnatural position. The best position for most patients is on the side with the legs well drawn up. It is seldom necessary to use the lithotomy posture.

If the sphincter is hypertrophied or at all tight, and especially if the fistula involves it, it should be divulsed. This is always done under gas. After local anasthesia is produced a grooved director is passed into the tract for some distance. A sharp pointed curved bistoury is then introduced and the point brought out through the tissues at a depth of from one-half to one inch, all the proximal tissue divided, and the director removed.

The bleeding is never a matter of serious consideration unless the deeper structures are involved, and its control when necessary is the same as in any other condition. The wound is then lightly packed with carbolated gauze held in place with a large pad of sterile gauze and T-bandage.

The use of antiseptics, germicides and irritants is useless unless clearly indicated. Probing and scraping of the wound is contraindicated and will often do more harm than good. Thorough cleansing with hot sterile water is the best after-treatment. After three to five days according to the reaction present the procedure is repeated, the same technique followed.

If the fistulous tract implicates the external sphincter it must be divided, and it is most important that the fibres are divided at right angles, not obliquely, so as to prevent irregular contractions and unsatisfactory healing. Don't forget in the anterior and posterior portion of the muscle the fibres run obliquely and a division which on the surface would appear oblique is in reality the proper one. The division of the external sphincter has always been a matter for serious consideration, and the possibility of impairment of its function and loss of control has many a time been deemed a greater risk than the gravity of the situation warranted. Under the ambulant method of treatment, when it becomes necessary to carry the incision through it, the muscle should be divided very carefully and gradually, not more than one third of it being cut at any one treatment, and the length of time between treatments should be long enough to secure good, firm union, before the second portion is cut and this should likewise be healed before the third portion is divided. In this manner the function should not be disturbed and incontinence avoided.

If the tract runs through the muscle, leaving the larger portion external, the fibres and skin should be divided at once, but if the larger portion of the muscle is internal to the fistula it is best to divide only a portion at once and the rest a week or so later.

If the tract runs entirely external to the muscles, the fistulous tract is gradually opened up to and including the outer fibres of the muscle, then a speculum is introduced into the rectum in such a manner as to leave the internal opening exposed, a blunt-pointed bistoury is passed into the opening and with a gentle sawing motion the integument is incised downward from the internal opening; in this way about one-third of the muscle is cut, then the knife is turned and a back-cut, known as the backcut of Salmon, is made to divide the indurated floor of the fistula. This may be omitted if no necessity for it appears. After this partial division the internal opening has been enlarged so that it appears as a slit in the integument and as the upper end heals the lower end becomes the internal opening of your fistula, but it has been transferred more externally. After a week, the proper interval to permit healing, the second portion is divided in the same manner, omitting the backcut. When this re-unites, the third and last portion of the muscle is divided, but not the integument. The reason for this is to conserve the integrity of the anal orifice, and avoid the disfiguring contraction which frequently follows the division of the skin at the same time a deep incision is made, involving considerable portion of the sphincter. It preserves the usual contour of the parts, prevents distortion and by preventing this contributes to the good results following a firm union of the divided muscle. When the healing process has advanced to just below the skin, a grooved director is passed and the skin divided. As the divided portions heal, the location of branches, if they exist, will be marked by spots that will not heal, and resemble a deep pore with an oozing center, into which the probe will easily pass. The method of dealing with connecting cavities differs in no particular from that described, as the main tract is the source of most of the exudation in them.

As already stated the discovery of the internal opening is very important, and is essential to successful treatment, and right here an important point should be noted. Some men recommend that in probing a fistula, the probe should be in-

serted through the tissues until it can be felt under the mucous membrane, and if no internal opening is readily found the probe is pushed through the membrane and the sinus completed. This procedure I unsparingly condemn and freely assert that no single measure has ever given the amount of trouble that later developments proved were due to it.

The internal opening often extends higher than the probe happens to reach, and when the probe is pushed through the membrane you will probably have to deal with a tract with an external opening, and another with a blind internal end left undisturbed during treatment.

If the internal opening happens to be below the opening made by the probe you may get it, but it is good luck and not good management.

In fistula with more than one opening, especially the so-called horseshoe fistula and in which the sphincter must be divided in more than one place, the point of first division must be thoroughly healed before the other side is cut. In this manner a procedure which is dreaded by all surgeons when performing the radical operation, is changed to one very much less dangerous as to incontinence by the conservative method, always remembering the conservative method is by no means a simple one.

During your surgical treatment for this condition I would suggest that you think a little of the patient's general condition and not entirely of the rectum. He will need good Homœopathic prescribing and supervision. In the absence of any other indicated remedies, may I suggest *silicea*, of high potency, in chilly cold natured people with a lack of vital heat, and *tuberculinum*, also high, in the warm blooded patient.

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**OUABAIN IN HEART DISEASE.**—Laubry and Pezzi review their extensive experience with ouabain by the vein in more than five years. They discuss the indications for it, and describe three typical cases to show the valuable aid possible from this drug when all others have exhausted their usefulness. They reiterate that its field is only after the failure of others. After a course of ouabain, *digitalis* may regain its efficacy. In the discussion that followed, Fiessinger emphasized the surprising reactivation of *digitalis* that may occur when the *digitalis* is given by the vein after it has exhausted its usefulness by the mouth. It can be resumed later by the mouth with good effect.—*Bulletins de la Société Médicale des Hôpitaux, Paris.*

**THE VALUE OF THE PATHOLOGICAL LABORATORY TO OBSTETRICS****CARL V. VISCHER, M.D., PHILADELPHIA, PA.****Instructor in Obstetrics, Hahnemann Medical College and Hospital; Assistant in Obstetrics, Women's Homœopathic Hospital***(Read before the Homœopathic Medical Society of Pennsylvania, Sept. 26, 1922.)*

THE pathological laboratory, if used when indicated, may be of greater value to obstetrics than to any other branch of medicine. In the very early days of scientific obstetrics, the laboratory gave us some of the most valuable data which we now possess concerning the changes occurring in the female organism during pregnancy and the puerperium; namely, the method by which conception occurs, the formation and growth of the embryo in utero, the relative increase of the erythrocytes and the leucocytes during pregnancy and the still greater increase of the latter in the early days of the puerperium (30,000-35,000), the conversion of fat marrow into bone forming marrow, the increase in the gastric secretion and the presence of a hyperacidity. The condition of hypertrophy and hyperplasia of the entire uterine structure during pregnancy and the definite changes which occur in the ovary (presence of the corpus luteum of pregnancy, the decidua-like formations beneath the tunica albuginea, the edema and the vascularization), and the changes taking place in the glandular structure of the genitals.

It has taught us all that we know concerning the changes in the mammary gland during pregnancy and the puerperium and of the composition of colostrum and of mothers' milk. Bacteriologically and cytologically it has shown us the make-up of the vaginal discharges and the lochia both normal and abnormal.

Were it not for the laboratory, we would be more or less at a loss as to the actual cause and the treatment of the pathology occurring in the liver and kidneys during pregnancy and the various forms of sepsis encountered during the puerperium.

As to the routine use of the laboratory in the practice of obstetrics, it is not only a valuable aid to diagnosis, but also to prevention and treatment. Although rarely made use of, the "Abderhalten test" may be carried out as early as the fourth week after conception as an aid to the diagnosis of

pregnancy. Other tests for pregnancy such as the "mashtagmin reaction" and the "complement-fixation test of Mauriac" may be used, but on account of the difficulty in the technic the details of the tests are here omitted.

Everyone doing obstetrics is more or less familiar with the analyses of urine, begun as soon as pregnancy is diagnosed and carried out every two to three weeks in the average normal case until the seventh month and then every one to two weeks and if necessary a daily analysis. We sincerely believe that the "routine urinalysis" gives us most valuable information as to the general metabolism of the patient and helps us to discover and to prevent numerous cases of probable toxemia, eclampsia and renal infection. Permit me to cite a case in which we feel there would have been an unhappy termination had it not been for the prompt use of the laboratory. Primipara, age 19, 5½ mos. pregnant had been progressing normally, urine and blood pressure normal, was suddenly taken with chilliness, headache, general malaise, muscular soreness and temp. 104—pulse, 130—respirations 26. Lungs and throat negative. A catheterized specimen of urine was immediately sent to the laboratory, examined and the following reported: Turbid, acid (faint) Sp. g., 1.014, albumin 2 plus, sugar negative. Urea 1.4 per cent., casts negative, PUS 4 plus. A diagnosis of pyelitis was made, and treatment immediately started. After a few hours the patient developed some typical symptoms of pyelitis and improvement was very slow. Culture of the urine showed a pure colon growth; an autogenous vaccine was prepared and after two injections the temperature dropped to normal. Following this attack there were two similar attacks, one in the eighth month and the other soon after delivery, which promptly responded to the vaccine. At the present time the urine is negative and the patient is enjoying good health. The foregoing is a good example in which the laboratory made a positive diagnosis long before we could have, from clinical symptoms, and it also supplied us with a therapeutic agent.

Diabetes mellitus is another condition which is of grave significance when complicating pregnancy and can only be positively diagnosed by means of the laboratory (Urinalysis).

The Wassermann test is now being carried out as a routine measure in most maternity hospitals. As soon as a positive test is discovered, whether it be during pregnancy or the puer-



perium, treatment (salvarsan) is immediately instituted. Here again the laboratory makes a diagnosis and treats the case, thus saving innumerable lives and preventing untold suffering. The routine examination of a smear of all urethral discharges and of all suspicious cervical discharges frequently makes a diagnosis of gonorrhea and enables us to begin treatment immediately, thus preventing ophthalmia neonatorum in many instances.

Frequently, during the puerperium, with the aid of the laboratory we are able to make diagnoses of bacteremia (shown by blood-culture), and infection of the endometrium or cervix (shown by direct culture of those parts). These conditions are not as rare as sometimes supposed, and at times cannot be diagnosed without the aid of the laboratory, therefore if there are any symptoms suggestive of an intrauterine or blood infection call upon the laboratory early.

The foregoing are but a few concrete facts showing the great value of the laboratory of pathology to obstetrics. Many more could have been mentioned, but if I may feel that a desire has been awakened to use the laboratory when it is indicated in the practice of obstetrics, I shall have been sufficiently repaid.

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#### **OBSERVATIONS UPON THE ACUTE DRUG NEPHRITIDES WITH A METHOD SUGGESTED FOR THEIR DIFFERENTIATION**

BY LINN J. BOYD, M.D., ANN ARBOR, MICH.

WHEN one attempts to teach a student the drug therapy of the acute nephritides and glances through the standard homœopathic texts for methods of fixing the symptomatology he is astounded at the detailed review of similar symptoms and a paucity of means of differentiating these remedies from each other. However, this is not so surprising when one considers that inflammation of the kidney should give rise to a certain set of symptoms regardless of the etiological agent. It was with the similarity of pictures in mind that this study was undertaken. It was hoped by a study of the symptomatology, together with a review of the literature, that the

drugs could be summed up in order to make individual pictures, thereby simplifying the application and at the same time see if the inventory offered new symptoms which we could apply.

CLASSIFICATION.—The number of drugs producing a nephritis are almost innumerable so that some type of classification is desirable. A classification based upon structure can be made.

1. Metals and their salts. There is no known metal which has been studied that will not produce a nephritis although some act in only corrosive doses or when given parenterally. Many of the salts are capable of producing similar changes. All these substances will produce albumin, casts, etc., and, therefore, in a superficial manner resemble each other.

2. Organic compounds of a known composition such as turpentine, vinylamin.

3. Organic compounds of an unknown composition, such as aloin, or those of which are products of living cells—cantharidin, apis, snake venoms, diphtheria toxin, etc. These subdivisions could in each case be carried out almost indefinitely. Such a classification is useful only to point out the infinite number of substances that produce the change, but offer nothing that can be applied to the patient. It is, therefore, more desirable to divide them upon a clinical or pathological basis if one is to prescribe with the greatest acumen. Upon a clinical basis there is not much difficulty, since all are renal irritants, they resemble each other. They all have albuminuria, casts, usually an early polyuria to be followed by a diminution or suppression. The phenolsulphonephthalein test shows diminished efficiency of the kidney, there is chloride and non-protein nitrogen retention, often glycosuria without hyperglycemia. Some have hemorrhage (terebinth. cantharides and venoms). In other words, they all have in general the usual clinical picture of an acute nephritis. Later we will attempt to point out many differences. Upon a pathological basis they can be divided first into tubular nephritis with only slight glomerular changes as exemplified by uranium nitrate, potassium chromate, merc. corrosivus, and aloin. As has been pointed out by several observers, uranium nitrate and potassium chromate act principally upon the convoluted tubules (the change consisting of granular degeneration and necrosis, at times fatty degeneration) while merc. corr. acts

principally upon the ascending loops of Henle (the change consisting of a characteristic deposit of lime salt). Later the glomeruli are affected. As opposed to the tubular nephritis, we can secondly place the glomerular forms as exemplified by especially arsenic, cantharides, venoms. Arsenic acts upon the capillaries producing a capillary paralysis with little histological change, but physiological methods show a marked glomerular injury. Cantharidin nephritis involves the tuft and glomerular space while with venoms usually the glomerular nephritis is of the exudative type, with a hemorrhage tuft and with slight, if any, tubular changes. (1) As opposed to the tubular and glomerular nephritis we can make a third type, that of chronic nephritis as exemplified especially by plumbum and somewhat by uranium. These can now be tabulated.

<i>Tubular</i> <i>Nephritis</i>	<i>Glomerular</i> <i>Nephritis</i>	<i>Chronic</i>
Uranium Nitrate	Arsenic	Plumbum
'Potassium Chromate	Cantharides	Uranium
Merc. Corr.	Other Venoms	

NOTE.—This list is abbreviated in order to show the method and does not pretend to be exhaustive. All these produce albumin and casts but *uranium alone causes a well marked oedema of the subcutaneous tissues, hyrops of the pleura and peritoneal cavities* (2).

TYPES OF NEPHRITIS.—*Venoms*. There are many subdivisions here. For the first example we can take *cantharides*. The usual picture of cantharides poisoning in the human or taken from the materia medica is as follows: (The symptoms here given are taken from a recent human case of cantharides poisoning (3) and have been confirmed by the materia medica.) It consists of a true acute glomerular nephritis with albumin, casts, and blood in the urine, the amount scanty or suppressed, pain in the back usually in the lower dorsal region or small of back, gastrointestinal irritation (vomiting of blood, etc., for part of the drug is eliminated through the gastrointestinal tract). Pain and soreness beneath the sternum. Often vesical tenesmus with frequent scanty urination and at times priapism. *There is no oedema* in experimental cantharides nephritis. An unique observation was that of a blood count of 10,000,000 gradually falling to normal in the human case. This finding has been reproduced in animals and should be investigated since it is quite peculiar and might be not only a char-

acteristic symptom but may reveal its use in other diseases. The red dye excretion is usually delayed in the experimental nephritis in the dog, for about 5—10 minutes. For example, the normal appearance was in five minutes after injection, with 185 c.c. of urine eliminated in two hours and 66 per cent. of the dye being recovered. In a severe case of poisoning after 22 hours only 6 c.c. of the urine were eliminated and only 9 per cent. of the dye recovered. (Those who are interested in further findings consult (4).) In reference to the blood constituents there is often an increase in the non-protein nitrogen (usually about 25 mgs. per 100 c.c. of blood) and an increase of urea nitrogen (about 14 mgs. per 100 c.c. of blood) and a slight increase in the chlorides (usually about 1.8 grams per 100 c.c. of blood). There is always a measurable acidosis and the animal loses weight rapidly. It should be remembered that the increase of protein in the blood is not very significant since in cantharidin poisoning there is an increase of protein metabolism. It is true that there is slight retention since we have not learned to judge accurately the dosage and at times we give large amounts which will produce in addition to the glomerular changes, slight tubular pathology. It should be noted that there is no early polyuria which is so characteristic of chromate nephritis. Cantharides and arsenic resemble each other in the increased elimination of protein derivatives, but differ markedly in that in arsenic we have a capillary paralysis which causes the blood pressure to drop quickly and remain low. Again cantharides is essentially a hemorrhagic type while arsenic is not—at least as regards the nephritis.

When we come to the other venoms we encounter more experimental difficulty. This is especially true of apis. This has discouraged many scientific workers because the secretion is about .0003—.0004 gms. and two-thirds of this is water. The content of the venom, however, has received some inquiry and it has been found to contain at least two important fractions. One is the protein free sapotoxin, which would naturally resemble the snake venoms, while the other is a poison of the cantharidin type, which serves to explain the irritant properties of the sting (5). As might be expected, the urine of apis is scanty, albuminous, and usually loaded with casts. The stinging pain, the scantiness, its high color might all be predicted by its cantharidin type of poison. Other bees, such

as the rock bee, have attacked individuals and examination has shown a measurable amount of acidosis, so that it is not improbable that we find this under *apis mellifica*. Nevertheless, in spite of the similarity so far apparent, there is a marked difference in the *apis* and *cantharides* patients. The opportunity for involuntary proving of a drug like *apis* is quite rare; nevertheless, there are in the literature a few such examples. One (6) we may detail. The author intended to prove something different than *apis nephritis*, and it is possible in the case cited no *nephritis* existed as there are no urine reports, but it serves our purpose in that it demonstrates the type of *apis* reaction, such as might be clinically seen in *nephritis*. These symptoms as you very well know are, for the most part, found in the *materia medica*. She reports a young woman of 24 years stung by a single bee upon the hand. In about one hour there was tingling (*fourmillements*) in the limbs, and general *pruritus*. There followed vertigo, nausea without vomiting and then fainting, accompanied by clonic convulsions of limbs and muscles of the face, then generalized contractures, which involved chiefly the muscles of the thoracic cage, the pharynx and jaws, causing *apnoea*, *dysphagia*, *aphonia* and *trismus*. The pulse was feeble and rapid. The oedema was marked in the stung member, the face, and thorax especially the breast. After these tetanic attacks, the patient remained in stupor for some time. The physical examination showed a fixed gaze, the lips compressed, with froth at the labial commissures.

Soon after, there was a repetition of the convulsive seizures presenting constriction of the chest, difficulty in swallowing, and *trismus*. The beat of the heart was feeble and rapid. This occurred when the oedema was nearly gone.

This type of case might be taken as an example of the character of the *apis* case—the dullness (this case remained in stupor for one week), the oedema, the pale skin, the scanty urine loaded with albumin and casts of our *materia medica* as opposed to *cantharis*. In italics in Cowperthwaite is *great feeling of suffocation*, etc., under *apis*. If we may be allowed to digress for a moment, we can point out that the symptoms above given correspond to anaphylactic shock. M. Cornil (7) has reported a bee case with *dyspnoea*, oedema, urticarial eruption and syncope—the main symptoms of anaphylactic shock. It can be pointed out here that in *apis* we may have a remedy

for anaphylactic shock and serum disease. This is theory, but it may serve as a starting point for an investigation which we hope to carry out if time permits. Space compels us to abandon contemplation and pass on to other phases of the subject. The type of case for other venoms I have taken up in another place (1) so that will not be considered here.

**ARSENIC NEPHRITIS.**—This represents another of the group of glomerular nephritis. It has, in addition, many effects upon the adrenals which cannot be taken up at this time. The local symptomatology as revealed by the urine analysis is similar to that of cantharides for it, too, is a glomerular toxin. The blood chemistry resembles that of cantharides. As a rule, however, there is little or no retention of non-protein nitrogen for when urea is given to the early arsenic glomerular nephritis, there is no diminution in the ability of the kidney to excrete, and the excretion may be increased rather than decreased (increased protein metabolism) (8). The arsenic clinical picture is so familiar that it would bore you to repeat it, and no one has difficulty in separating it from the preceding types of cases. It may not be amiss, however, to point out that from the laboratory standpoint one would have no difficulty separating arsenic from the tubular group, and since all of the latter have marked non-protein nitrogen retention.

**CHROMATES.**—These differ markedly from the preceding type since it is an example of the tubular form while the others were glomerular. (It is interesting from a homœopathic standpoint that so many of the animals used in chromate nephritis die from bronchopneumonia.) The difference between chromate nephritis and cantharidin nephritis is probably best shown in a table.

	Urine P. H.	Non-P. Nitro.	Urea N.	Chlorides	Co.2	Dye
Chromate ..	6.4	118.5	41.6	5.7	36	3%
Cantharidin	6.4	55.8	28.6	6.2	43	9%
Control ....	6.5	31.2	14.8	5.7	55-60	65-70%

**NOTE.**—The non-protein nitrogen and urea nitrogen are expressed as mgs. per 100 c.c. of blood. The chlorides as gms. per 100 c.c. of blood. The carbon dioxide as per cent.

From the above table one can see at a glance the vast difference between the tubular and glomerular forms or speaking another way of cantharides=arsenic form from the chromates=uranium nitrate=merc. corr. form. In the tubular form there is extreme retention of non-protein nitrogen, urea nitrogen not seen under cantharis nor arsenic which have a normal, or at most, slightly diminished elimination of these elements. The more evident acidosis can also be noted under chromate nephritis than under the others. It should be added that the retention is much more noticeable in those animals which have been previously fed upon a high protein diet.

Clinically a difference in arsenic and cantharides from chromate is that the latter has a characteristic early polyuria never seen in the other two. Uranium and chromate resemble each other in many ways but differ in that *uranium has oedema* and chromate not. This may be verified in another way by the recital of a human case of chronic nephritis (9). This case was due to the application of chromic acid to a growth. *There was no oedema, no symptoms of uremia.* The urinary secretion remained high after an initial suppression. The specific gravity of the urine varied from 1.011—1.014, the urine was acid, contained hyaline and granular casts, desquamated epithelial cells and red blood cells. The non-protein nitrogen and the total chlorides in the urine were reduced but followed in general the amount of urine excreted. The urea nitrogen in the urine was constantly low and reduced more relatively than the non-protein nitrogen. The blood urea was high, varying from 65.38-227 mgs. per 100 c.c. of blood. The creatin and creatinin were low in the urine and high in the blood. The latter rose until after the fifth day was 14.8, and then slowly rose to 17 mgs. The blood uric acid was high (4-9.5) but was not so much increased as the blood urea. The plasma chlorides were low (378-558). Sugar appeared transiently in the urine (as it does with many types of metal nephritis) and had no relationship to the amount of sugar in the blood. In conclusion, one might sum up the case as one of pure tubular nephritis with no oedema, no ascites and no uremia with urine with low specific gravity and markedly diminished nitrogen, chlorides, creatin, uric acid and urea and the blood high in the same. The carbon dioxide tension showed acidosis. So we confirm in every way our idea of nephritis.

**MERCURIC NEPHRITIS.**—Briefly, from a laboratory standpoint this type resembles that seen above. There is the same retention of total non-protein nitrogen and urea N. in the blood with a diminution of the phenolsulphonephthalein excretion and here, too, they follow the amount of urine excreted. The urine shows the same findings, and there is the absence of oedema as a rule. (See 10 for detailed case report.) A striking point must be mentioned, namely, that many times one sees a progressive diminution of the chloride concentration in the blood as the impairment of the kidneys grows worse.

Again, the picture of mercury is so plain that any mention of it would be tiresome, but it must be plainly seen that with the exception of only very occasional findings the final prescription has little to do with the local findings except in so far as the blood tells us the type of lesion.

Uranium, one of the most important kidney remedies we possess (and it is seen from this standpoint only as we forget the diabetic type) I have written of before (2). In that place I detailed the low phenolsulphonephthalein output, the high non-protein nitrogen retention, the urea nitrogen retention, the chloride retention (which differentiates it from *merc. corr.*), and the acidosis. Finally, though we think of these remedies as either tubular or glomerular and with resultant findings we must remember that in life it is often difficult to tell the type of pathology. Here in uranium we have a remedy; while it produces the bulk of the pathology upon the tubular, it also affects the glomeruli to some extent. It affects the interstitial tissue making up the clinical picture of acute diffuse nephritis. Above all, it is the only one from the experimental standpoint that produces oedema so common in acute nephritis. From these few points it is apparent that this remedy is in decided need of more investigation. Finally, it may not be amiss to record a few things not noted in my former article. The influence of uranium nitrate and chromate is much less when a carbohydrate diet has been used than when a meat diet has been used, just as the relationship between meat and fat in phosphorus poisoning. Fats cause no more changes than meats in chromate nephritis, but fats make an uranium nitrate nephritis much worse.

**CONCLUSION.**—This paper is not intended to be ex-



haustive in any sense of the word. Many very important remedies as terebinth with its hemorrhagic acute nephritis, its sore throat (not usually mentioned in provings but seen in human poisoning even when the poison has not been given per mouth), its scarletiform skin rash, all these resembling so closely the nephritis of scarlet fever, are very valuable. Many even more important, such as plumbum, giving an exact reproduction of chronic interstitial nephritis, have been hardly mentioned.

It is hoped that the paper is constructive in that it offers to those who can do blood chemistry, additional facts for the selection of the remedy. On the other hand, it is hoped that the general practitioner who has no time for these tests, can be reassured that upon the general type of the patient and his reaction to the disease, the remedy can be selected. To the laboratory worker it may suggest additional problems to be solved (and there are myriads of homœopathic facts awaiting an explanation). Finally, to the student, it may suggest a method of correlating and remembering the remedies of nephritis.

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#### ACUTE GONORRHEAL URETHRITIS IN A MALE OF 22 MONTHS

BY CRAWFORD R. GREEN, M.D., TROY, N. Y.

THE following case is reported because of the great rarity of this disease in the very young male, particularly when compared with its incidence in the female, and also because of the lesson taught by the probable source of infection.

S. P., male, 22 months old, backward in development on account of congenital valvular heart defect. Otherwise

normal, and has had no diseases. Circumcised a few days after birth. Of good parentage, and living in very sanitary surroundings.

On July 12, 1922, while the family was in the country, the mother observed a little pus on the diaper. The child became fretful, and refused its food: On the following day the pus had increased in amount, and it was observed that the child cried as though in pain before urinating. There was no fever, or other constitutional symptoms. For the next five days all the symptoms increased somewhat in severity. The mother, becoming alarmed, then brought the child home from the country.

I was called to see the patient on July 19th, about an hour after his return to the city. The child was very nervous and irritable, and screamed before urinating. The temperature was normal. Typical creamy pus was easily milked from the anterior urethra, and smears were at once sent to the laboratory for diagnosis. The pathologist reported the presence of gonococci. Pulsatilla 3x, in solution, was given every hour, and urotropin, one grain three times daily.

The following day the baby urinated without distress, was much less irritable, and began to take nourishment better. The urotropin was discontinued on the fourth day, and the pulsatilla solution given every two hours. Improvement was gradual, and continued for the next ten days. Pulsatilla 12x tablets were then given, one grain every three hours. By August 15th, improvement had progressed to the point that for two or three days no pus at all would appear, and then only two or three drops. By the end of the month, the condition had entirely cleared up, without complications.

On July 15th, a young nurse girl who had been caring for the baby was discharged from service. Unfortunately, this girl disappeared so that no examination of her could be made. Her discharge had resulted from her employer's having discovered that she was immoral, and her character was such that it is a reasonable assumption that she was infected with gonorrhea.

25 Second Street.

**INCIDENTAL OBSERVATIONS ON THE PRESENCE OR ABSENCE OF  
APHONIA IN THE TUBERCULOUS**

BY DOUGLAS MACFARLAN, M.D., PHILADELPHIA

(Read by Title before the Homœopathic Medical Society of Pennsylvania, Sept. 28, 1922.)

To anyone working in a large city hospital where numerous tubercular cases are treated, there is an opportunity in mass study that develops the acquaintance with certain tubercular symptoms that are not usually mentioned. These symptoms are not the old, singular or obscure ones as might be expected, but on the contrary, they are frequent and prominent.

There is not much mention of aphonia in tuberculosis, it usually being merely named and let go at that. Yet an analysis made after careful observation shows that hoarseness and loss of voice manifest several varieties and are produced by several causes. The first singular feature is that appearances of the larynx frequently give no prior clue as to the condition of the voice. Cords may be extremely mouse-nibbled, especially at the posterior part and the voice may be unimpaired. Here the portion of the cord involved is that which relaxes in arytenoideus paralysis, the rest of the cord being normal. The cords approach on phonition, but posteriorly they do not close and the erosions certainly allow the escape of air. Anteriorly the cords do approximate perfectly and vibrate normally giving a normal voice.

Again, there can be cited another type where aphonia is to be expected and is not always found. These are the cases of marked edema of the arytenoids, aryepiglottic folds and the epiglottis. Here certainly swelling about the arytenoids should restrict their action and produce at least a paresis of the internal tensors altering the voice (thyro-arytenoidea). A paralysis of these muscles, the most common form of myopathic paralysis, produces greatly weakened tones and a restriction of the range, especially in the higher notes. In these cases to which I refer, where there is no alteration in voice the cords act normally. The edema does not extend below the arytenoids and does not involve the true or false cords.

Where there is found such a "superior" laryngeal edema as described, and when there appears the choking on swallowing of even small amounts of water, it is presumed that the

edema involves and impairs the action of the aryepiglottic and thyro-epiglottic fasciculi. The former muscle (aryepiglottic) acts as a sphincter of the superior margin of the laryngeal cavity, while the latter (thyro-epiglottic) aids in depressing the epiglottis. Likewise, arytenoid swelling involving the arytenoideus prevents the closure of the posterior commissure of the cords and causes or disposes to choking. Involvement of the thyrohyoid, the elevator of the "box" of the larynx and important in closing the larynx, less often occurs. Thus may be seen an explanation of the unimpaired voice in the presence of choking on swallowing.

Another condition is met that is still more puzzling, that is a normal larynx with an aphonia. Exception will be noted to the statement that the larynx is normal, for on more careful inspection with the patient making an effort to phonate, there will be seen a paresis or sluggishness usually of the left cord. The aphonia is not necessarily complete unless the cord is paralyzed, but there is marked hoarseness and a slowing of speech. To determine the cause is more difficult than to discover the local impairment. For many of these cases have incipient tuberculosis with as yet no marked lung involvement. The general condition does not usually show such weakness as to warrant the supposition that the laryngeal muscle weakness is due to asthenia. For the aphonia from weakness comes in the advanced cases where there is the additional factor of shortness of breath, quick breathing and a small respiratory volume. The most plausible explanation of the aphonia in those early cases seems to be mediastinal involvement with pressure on the recurrent laryngeal. The left side is more frequently affected, as can be imagined, since the left recurrent laryngeal nerve in turning back around the arch of the aorta comes through a region fully associated with lymphatics. As it ascends it lies between the trachea and oesophagus. On the right side, the right recurrent laryngeal nerve winds around the right subclavian artery from before backward, and rises upward and inward along the side of the trachea. The right vocal cord is thus less often involved in lymphatic enlargements.

These notes are made with the thought that even as hopeless as may appear the usual case of laryngeal tuberculosis, there are features present to interest the inquisitive.

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## EDITORIAL

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### THE LEGAL ASPECTS OF BLOOD GROUPS

ONE of the most valuable discoveries in the field of medicine, because of its practicability and importance, has been that of the blood groups. The determination of these in individuals has made possible and safe the transfusion of blood with all the benefits thereof. Like many other therapeutic measures the administration of blood has been empiric in many diseases and consequently disappointing at times in its effects. However, used when and how it should be used, it yields results which are generally beyond dispute.

To the laity a transfusion has always been a heroic operation and considered as the last great effort to save a life, so it is but natural that accounts of such operations should appear in the public press, the length of the story being in proportion to the prominence of the individual receiving the blood. Transfusions now are common; they no longer awe, but the group tests which have made them safe are coming into the foreground to be used for an altogether different purpose; that of determining parentage.

Landsteiner in 1901 was the first to suggest that humans might be divided into definite groups according to whether or not the red cells of one were agglutinated by the serum of another, or vice versa. He distinguished three groups, and Decastello and Sturli, in 1902, determined the fourth. Jansky, in 1907, and Moss, in 1910, gave us our present classifications. That of Moss differing from Jansky's in that groups I and IV are interchangeable, groups II and III remaining the same. This variation in classification has been a source of confusion, so within the last year or two, the Association of Pathologists and Bacteriologists has decided to adopt that of Jansky, for no other reason than that of priority. Accordingly, therefore, the classification given here is the officially adopted one.

The cells of a group I individual are not agglutinated by the serum of any group. The cells of a group II individual are agglutinated by the serum of a group III individual, and also by the serum of a group I individual. The cells of one in

group III are agglutinated by a group II and group I serum. Cells in group IV are agglutinated by I, II, and III serums. These reactions depend upon certain substances in red cells, agglutinogens, termed A and B, which make them susceptible to agglutination by the human serum agglutinins *a* and *b*. The red cells of group I have neither A nor B; those of group II have A only; those of group III have B only; and those of group IV, A and B combined. The serum of group I has agglutinins *a* and *b*; group II serum has *b* only; group III serum has *a* only; while the serum of group IV has neither agglutinin *a* nor *b*.

In 1910 von Dungern and Hirschfeld discovered that the substances A and B present in human red cells are inherited according to Mendel's law. The specific agglutinability of the red cells appears first and is usually present at birth; while the specific agglutinative power of the blood serum, which is to characterize the individual through life, may not be present at birth and may not appear for months. Ottenberg, in 1908, noted the hereditary character of these substances and mentioned, too, that they might be used to determine parentage. Since that time there has been much work and some controversy along this line.

Just recently Buchanan questions the value of blood grouping to determine parentage. He mentions that a grandparent may be a heterozygote, in virtue of which she might transmit a character to a son or daughter, who might be a heterozygote. Thus in a family a long concealed characteristic might appear. He believes that the four grandparents, the parents and at least four of their offsprings should be examined. Should one of the offsprings be of a group not corresponding to the parents and grandparents, then, in that one case, illegitimacy can be proven.

A lengthy investigation determined that if both parents are in group I all the children must be in group I. Should both parents be in group II, there can be only two possible groups of children, II and I. With both parents in group III the children would be all in group III or I. Parents in group I and II would have children in group I and II. Parents in group I and III would have children in group I or III. All unions containing members of group IV and unions of group II and III, may give rise to offsprings of any of the four groups.

According to this, then, if a child's blood is in the correct group for its alleged parents it could be, but not necessarily, their offspring. On the other hand, if the child's group is wrong for the two asserted parents, then one can say with certainty that the child must have a parent other than one of those asserted. This same evidence can be used either to prove the illegitimacy of the child or the innocence of a corespondent said to be the father of a given child.

When we consider that 43 per cent. of individuals belong to group I; 40 per cent. to group II; 7 per cent. to group III and 10 per cent. to group IV, we must realize that in view of what has been stated in a previous paragraph, if used legally, the group test to determine parentage may result in the guilty being acquitted and the innocent condemned more often than would happen on circumstantial evidence alone. We have not taken the time to figure out the chance element on the above percentage basis; but we venture the opinion that the percentage of efficiency of the blood group test to determine parentage would be entirely too low to make the test dependable. We believe that if other laboratory tests were no more reliable than the above mentioned one, they would be discarded and diagnoses made on physical examinations and histories as they were in former years. J. G. W.

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### PREVENTABLE CHILDREN'S DISEASES

THE most dangerous of the acute infectious diseases of childhood are measles, scarlet fever, diphtheria and whooping-cough. Measles is the most contagious and there is no preventive for the same. The only safe means of preventing infection with this disease is to guard most zealously against exposure. For this reason it is the course of wisdom to isolate every child with fever, sore throat or symptoms of a cold until the true nature of the illness can be determined and the question of its communicability decided. Since the majority of the communicable diseases are most contagious in their incipency, isolation as usually practiced, namely not until the disease has been definitely diagnosed, fails to accomplish its purpose.

What has been said of measles applies to scarlet fever.

There is also no preventive for this disease but, fortunately, it is less contagious than measles, or what is perhaps more correct, there is a lesser individual susceptibility to scarlet fever than to measles, and so epidemics are, as a rule, not as extensive and it can be controlled better. In the control of diphtheria and whooping-cough great progress has been made in the direction of preventive medicine and we now have at our command prophylactic measures as well as the procedure of isolation for the control of these diseases.

The seriousness of diphtheria is universally recognized, although its real danger is perhaps not appreciated as much as formerly, owing to the certainty with which it is cured by diphtheria antitoxin. It is, however, dangerous to be too confident about the curability of any disease and the public should be impressed with the fact that while diphtheria is almost always curable if treatment is instituted during the first twenty-four hours of the disease, the chances for a cure are not so certain if treatment is delayed to the second day. When a case of diphtheria has progressed for three or four days without antitoxin treatment the death rate is high and that is why children still die from diphtheria, although every such death is a reproach to the community in which it occurs.

Whooping-cough is more serious than is generally supposed. In young children it usually runs a more severe course, and infants, on account of their inability to struggle with the paroxysms and rid themselves of the bronchial secretion, frequently succumb from exhaustion or from a complication like bronchopneumonia. Statistics show that nine out of every ten deaths from whooping-cough occur in children under five years. A young child that has been definitely exposed to whooping-cough should, therefore, receive the benefits of prophylactic injections of pertussis vaccine with the hope of at least modifying the severity of the attack if not entirely preventing the same.

C. S. R.

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#### COMPLEMENT FIXATION IN TUBERCULOSIS

Just what complement is, is not definitely known, though it is recognized as one of the important factors in certain immune reactions. In vitro the fixation, binding or deviation—whichever one chooses to call it—of complement by an anti-



gen and its antibody, as manifested by the absence of hemolysis after red blood cells and their specific antibody are added, has been used to demonstrate the presence of immune bodies in the blood of patients suffering with diseases of bacterial origin. Should there be no immune bodies to act upon the disease-producing antigen, the complement is left free to unite with the red blood cells and their specific antibody and the destruction of the red cells, hemolysis, results. This, then, would be a negative result.

Since tuberculosis has always occupied the minds of those seeking to benefit human welfare, it is but natural that complement fixation should first be used in the diagnosis of that disease, which was actually the case. As a matter of fact the early work with complement fixation in tuberculosis instigated the use of the test in syphilis.

Though the tubercle bacillus is known and the disease itself quite well understood in all of its clinical phases, still the exact nature of the immune reactions which are stimulated in the body by the tubercle bacillus are but little understood. It is agreed, however, that an immunity is established by the natural forces of the body, when these are augmented by good food and other hygienic measures, provided the disease is recognized "in time."

In all complement fixation tests the most important principle is the antigen. Theoretically, this should be the specific organism responsible for the antibodies present in the patient's serum; in other words, the infecting bacteria. Experience has shown that so far as syphilis is concerned, the spirochete pallida are not satisfactory as an antigen, nor is an extract of syphilitic tissue—mostly fetal liver—so delicate as certain other substances which seem far removed from syphilis. So as the popularly known Wassermann stands today, it is not specific reaction though it is extremely reliable in the diagnosis of syphilis. In the case of tuberculosis these "foreign" antigens have proven unsatisfactory and only recently has a satisfactory antigen, made of tubercle bacilli, been developed.

It is impossible that we here delve into the history of complement fixation in tuberculosis, because it covers the earnest work of many men in all lands. The results have been variable, but withal, hopeful. Eventually the test will take its place among the many other laboratory measures of diag-

nosis. Today it is of practical value only in those large hospitals which have a wealth of material to furnish adequate controls. In the absence of a positive Wassermann, a persistently positive complement fixation test for tuberculosis is indicative of the presence of the disease in an active state. The strength of the reaction, according to some, seems to bear a relationship to the severity of the disease. The amount of fixation lessens as the disease is arrested, and a repeated negative means the absence of the disease.

Conclusively it may be said that the complement fixation test in tuberculosis is today of limited value. Other signs and symptoms of the disease are more reliable. J. G. W.

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#### **EASTERN HOMŒOPATHIC MEDICAL ASSOCIATION**

THE Eastern Homœopathic Association will hold its first annual convention at the Stacy-Trent Hotel, Trenton, N. J., on October 26th, 27th and 28th. By the time this appears before our readers the program for the occasion will have been distributed to all members of the various State Societies of New England and the Middle States, Maryland and the District of Columbia. A perusal of the program informs its readers that the strongest feature of the meeting will be the presentation and discussion of scientific matters and the entire absence of political activities and intrigue. The object of the Association is the promotion of the interests of organized Homœopathy and of the welfare of the constituent Societies and the prosperity of our medical colleges in Boston, New York and Philadelphia. Never before in the history of our school has such a brilliant program been prepared.

Side features for the occasion are the numerous entertainments prepared for us by the citizens of Trenton. Of these, our readers have doubtless full knowledge. Never before has such hospitality been offered any body of physicians and citizens.

All members of the constituent State Societies are automatically members of the Eastern Homœopathic Medical Association and will be welcome in Trenton. No one is eligible to membership unless he is a member of his own State Society.

**THE BY-LAWS OF THE EASTERN HOMŒOPATHIC ASSOCIATION**

MANY of our readers will be interested in the proposed by-laws of the new association. Nothing can be said authoritatively, of course, until after the first meeting, and the members have acted upon them. At the same time it will be of interest to our readers to learn just what will come up for consideration. Most of the by-laws are the routine rules governing similar bodies. The distinctive points are the following: Membership will be limited to the members of the constituent State societies. There will be no annual dues as such; a nominal registration fee will be exacted of members in attendance to defray the administration expenses of the Society. The Society will be governed by a board of directors, consisting of the presidents and secretaries of the constituent societies, and an executive committee selected by the latter. The object of this is two-fold: in the first place it will keep politics from the floor, so that members can devote their attention to scientific matters and entertainment, and in the second place it gives the Society an ideal governing body, consisting of experienced physicians of varied temperament and terms of service. Secretaries are more or less permanent. They usually retire of their own volition. With but few exceptions they are the real administrative force in a Society. Presidents are usually men of eminence, good insight into professional affairs, of fairly well advanced years and experience. Their tenure of office is but one year. The directors then include two classes of physicians: one more or less permanent, and the other changing each year. Neither class has an axe to grind, and both of them are well trained.

Another practical by-law copied from the Pennsylvania rules forbids the presentation of papers that are incomplete or not ready for publication; also forbidding the reading of papers that have been read before other Societies.

Present indications are strongly in favor of a large attendance. Physicians who never attended a meeting before will be in Trenton. There can be only one first meeting of a Society; and when that first meeting is of the Eastern Homœopathic Medical Association, it behooves all hands to attend to take in what promises to be the most wonderful gathering medicine has ever seen.

DO NOT MISS IT.

## GLEANINGS

### MEDICINE

Conducted by CLARENCE BARTLETT, M.D.

**BLOOD PRESSURE IN THE AGED.**—The net result of Thompson and Todd's clinical blood pressure observations on very old people is that the readings are more of theoretical interest than useful in diagnosis or treatment. A man over 80 with no subjective or objective signs whose mechanism has become adapted to a 200/100 pressure is not a case of hypertension to be dosed with iodids and nitrites, to be carefully dieted and subjected to balneotherapy. His medical attendant may be thankful that the man has been fitted with what is probably a compensatory and beneficent high systolic pressure. He will be wise in not tampering with the individual in order to treat a diagnosis. We submit that his, or her, the authors emphasize, high or low blood pressure is not a subject to be discussed with the patient either directly or by suggestion. There are already too many people who quote their blood pressure figures. It is enough that such people regard their "nerves" and intimacies of metabolism as topics of general conversational interest. Freedom from anxiety, business, domestic and personal, is therapeutically most important for the subject of the hypertension which requires treatment. Patients who brood over their own blood pressure figures, or the fact that their doctor has told them that they "suffer from high blood pressure," are very prone to become the subjects of a vicious circle in which the processes revolve the faster the more introspective the patient becomes.—*Lancet*, Aug. 26, 1922.

**THE SIGNIFICANCE OF RETINAL HAEMORRHAGES.**—C. O. Hawthorne, after showing that retinal haemorrhages may result from unexplainable fever, any of the types of anaemia, particularly constitutional diseases as syphilis, diabetes, and renal disease, remarks that its indications always call for a thorough medical examination to determine its signs. In conclusion he submits the following practical data:

1. That retinal haemorrhages may exist without recognized prejudice to vision, and ophthalmoscopic examination is therefore a necessary part of every clinical examination.

2. That such haemorrhages may be the first objective signs of serious disease, and a discovery of them, therefore, demands a complete examination of the patient.

3. That the recognition of retinal haemorrhage is often of high value in directing the observer to a correct interpretation of the clinical facts, while the prognostic significance of the observation per se is indeterminate.

4. That retinal haemorrhages do occasionally exist as isolated clinical facts, and when so existing are comparable to haemorrhages in other parts of the body (haematemeses, haematuria, haemoptysis, etc.), for which no ready explanation is at hand.

**THE DIAGNOSIS OF THE CARDIAC COMPLICATIONS OF GONORRHOEA.**—The recognition of mild, early endocarditis is often very difficult, indeed impossible. Systolic murmurs at the apex and pulmonary areas are commonly heard in the course of any acute infection, and, in themselves, offer little basis for the diagnosis of endocarditis. In many instances of rheumatic fever 'tis only through long continued observation of the patient that a positive diagnosis of endocarditis is reached, and then only on the strength of the later mechanical effects of scarring and retraction of the valves in the production of permanent stenoses and insufficiencies.

The very frequency of gonorrhoea contributes to the difficulty of ascertaining its relation to endocarditis. Few genito-urinary surgeons, probably, examine the hearts of their patients as a routine procedure, and without knowledge of the condition of the heart at the time of onset of the gonorrhoea, it may be difficult or impossible to reach a conclusion as to the relation of the malady to a chronic valvular disease which is recognized later.

Our impression, and it must be acknowledged that it is but an impression, is that the analogy between the cardiac complications of gonorrhoea and those occurring in pneumococcus and staphylococcus infections is close; that while mild infections with a favorable course may occur, gonorrhoeal endocarditis is generally a serious affair, in no way comparable to the acute, verrucous, so-called rheumatic endocarditis of uncertain origin, which affects so commonly the mitral valves, and tends toward recovery with scarring, deformity, and the production of chronic lesions which are notoriously a seat of predilection for later streptococcal invasion with the development of acute and subacute vegetative and ulcerative lesions.

How often endocarditis occurs in gonorrhoea we have no clear idea. This, however, we do know. Gonorrhoeal endocarditis is not a very infrequent malady, forming upwards of 11% of our fatal acute endocarditides, the bacterial nature of which has been determined at necropsy.—*Johns Hopkins Hospital Bulletin*, October, 1922.

**A STUDY OF THE CARDIAC COMPLICATIONS OF GONORRHOEA.**—W. D. Thayer after reviewing his experience presents the following summary: The cardiac complications of gonorrhoea occurring in thirty-three years at the Johns Hopkins Hospital have been reviewed. Twelve hitherto unreported cases have been added to our series and considered in connection with sixty cases collected from the literature.

In 176 instances of acute endocarditis of determined origin 20, 11.3%, were gonococcal.

Gonococci were cultivated intra-vitam (10) or post-mortem in 14 instances; they were demonstrated bacterioscopically following negative cultures intra-vitam or post-mortem in 6 instances.

There were two additional cases, in all probability gonorrhoeal, with negative cultures during life in which no bacteriological examination was made at necropsy, and several other instances of more or less characteristic endocarditis occurring in the course of acute gonorrhoea with negative blood cultures but without necropsy; these latter cases were not considered in our tables.

But little evidence could be obtained as to the relation of the time of onset of the cardiac involvement to the appearance of the disease or

other complications. Arthritis occurred in but 41.1% of our cases but in 68.5% of 54 cases collected from other sources.

The cardiac complications of gonorrhoea, as we have seen them, appear usually in the form of an acute or subacute vegetative and ulcerative endocarditis which comes on at varying periods in the course of the infection, often in the absence of other apparent complications. The onset may be sudden or more gradual, but is generally rather acute. There are usually chills and high remittent or intermittent fever, rapidly developing anaemia and considerable leucocytosis. The constitutional symptoms, those common to all grave general infections, are usually early and profound. There is often a petechial eruption. Embolic phenomena are common. There is albumin, casts, often blood in the urine, and in longer cases, anasarca and hydrops give evidence of a grave nephritis.

The duration is usually from 4-9 weeks but longer subacute cases may occur.

The aortic valves are those most commonly involved but, as in all acute endocarditides, the right side appears to be affected more often than in the chronic, so-called rheumatic valvular disease. In our experience, involvement of the pulmonary orifice has been rather common. Gonococcus usually implicates healthy, previously undiseased, valves. Mural endocarditis is frequent.

The cardiac involvement is not restricted to the endocardium. Endoarteritis, pericarditis and suppurative myocarditis are not unusual.

Gonorrhoeal endocarditis is in general, a malignant process pursuing a progressive and fatal course. In its virulence it occupies a position between the slower and more subacute *S. viridans* and *B. influenzae* infections and the more virulent *Staph. albus*, *Staph. aureus*, *Pneumococcus* or *S. Haemolyticus* endocarditides.

Milder instances of gonorrhoeal endocarditis or pericarditis with recovery may occur. How frequent these are is not clear. It is our impression that they are relatively rare.

Gonorrhoeal cardiac infections as a whole are by no means very unusual.

—*Johns Hopkins Hospital Bulletin*, October, 1922.

THE TREATMENT OF TABES DORSALIS.—R. Henneberg (*Klinische Wochenschrift*, July 8th, 1922, p. 1415) gives a careful critical review of the present treatment of tabes dorsalis. It cannot be well condensed into a brief abstract, but several of his conclusions are of practical importance. The syphilitic origin of tabes can no longer be doubted, but it cannot be cured. The spirochaetes produce their injurious effects on the posterior nerve roots. By neuritic and perineuritic changes (at Nageotte's points) the nutrition of the root fibres is affected. The results of the syphilitic inflammatory processes at these points are cicatricial connective tissue changes, which can no longer be influenced by any antisiphilitic treatment and are as injurious as the syphilitic inflammation itself. Hence the unsatisfactory results of antisiphilitic treatment. But many consider that mercurial treatment is of service in early tabes and is indicated especially as an introduction to salvarsan treatment. Mercurial inunctions may be employed, or injections of mercurial or arsenical and mercurial preparations (embarin or novasurol). The old salvarsan failed; intradural injections of salvarsan are not to be recommended. The author agrees with

those who consider that a repeated mild combined mercury and salvarsan treatment is indicated. He has treated a large number of cases of early tabes with neo-salvarsan and embarin, or mercurial inunctions. In no case had the disease a definite progressive unfavorable course, and improvement occurred not infrequently as regards certain symptoms. For the pains of tabes combinations of narcotics and antineuralgic drugs are often of service, such as pyramidon 0.3 gram, or phenacetin 0.5 gram and luminol 0.1 gram. Most patients find by experience one drug which is of most service for the relief of pains, and often that drug is aspirin, in rather large doses. The compensatory exercise treatment is of undoubted service. For the perforating ulcers, besides hot-water treatment and hot-air treatment, recently x-ray treatment has been recommended. Overstrain (especially affecting the legs) should be avoided. Syphilitic patients cannot be prevented with certainty from developing tabes, even by careful anti-syphilitic treatment. Tabes and general paralysis can only be prevented with certainty by the prevention of syphilis.

#### ROENTGENOLOGY

Conducted by WALTER C. BARKER, M.D.

**TECHNICAL AND CLINICAL ASPECTS OF THE NEW DEEP ROENTGEN-THERAPY.**—Case believes that the term new is justifiable in discussing the present method of using x-rays for deep therapy in malignancy, as so much additional knowledge is now available upon the physics of the ray and the behaviour of the scattered radiation.

He emphasizes the importance of knowing the wave length of the available rays, and the understanding of the rationale of filtration, choice of size and number of fields, and target skin distance from which the applications are given.

From personal observations, Case believes that "while many of the claims of European workers are tinged with enthusiasm, there are enough indisputable, tangible results to shake the reserve of most of the skeptical."

In selecting the patient, it is advisable to exclude the well advanced ones with marked cachexia and extensive metastasis. The cases should then be divided into early operable, advanced but yet operable, inoperable and hopeless.

Case is not yet prepared to agree with the German authorities who have abandoned entirely operation of uterine cancers. He does, however, believe in a thorough preoperative irradiation to make transplantation of cancer cells less likely during operative interference.

The patient is prepared by a preliminary rest in bed, attention to eliminative processes, dietary regulation and blood and urine analysis. If necessary a blood transfusion may be given before irradiation. Plenty of fluid should be introduced by the mouth, and if necessary, by retained enemas or intravenous injection. Lactose or glucose with alkalis may be added to the liquid with advantage. The patient should have an empty stomach while being treated. To prevent nausea and promote tranquillity during the tedious and often uncomfortable treatment, before starting the irradiation a  $\frac{1}{4}$  gr. of morphine is administered.

The attack is so directed as to determine the exact location of the growth and the direction of the probable paths of the spread of the malignancy. The dimensions of the patient at the location of the growth are then determined to ascertain the distance of the growth from the surface at the probable field for radiation and also the size of the growth.

With apologies for the supposed errors in the charts prepared by Dessauer and Holfelder and for the danger of Seitz and Wintz being wrong in recommending 120% of the skin dose for carcinoma and 70% for sarcoma, the author states that for lack of any better information, he follows the advice laid down by these observers and tries to give the entire dose in as few days as is possible.

The technic used is to select the size and number of fields and the distance of the target from the skin, according to the location of the growth. Eight milliamperes of current are used at a voltage of 200 K. V. passing through a filter of 1 mm. of copper. It is thought that less thickness of copper will answer and reduce the time of exposure. It now requires 800 ma. minutes at a distance of 50 cm. The result of this dose upon the skin of the neck is a reddening immediately after the treatment, and in three weeks, a mild brownish discoloration which gradually increases in intensity.

Intrauterine and vaginal introduction of radium is also used. While it is hoped to get the full dose in the first series of treatments, yet if there is not much improvement, at the end of six weeks, the author will repeat the dose, even though he does not expect to accomplish much more than in the first series of treatments. He quotes Gaylord as saying that rather than repeat the dose too soon, it is better to wait three months for results.

The Freiburg Frauenklinik has statistics showing that at least one-third of the inoperable cases not yet cachectic, two years after treatment, are alive and symptom free. Reports were just as favorable at the Erlanger clinic where a different technic is used.

Case sounds a warning of the importance of knowing that the proper filter is in place. At the Battle Creek clinic, the operator is not permitted to turn on the current until one of the physicians in charge personally examines the filters, protection and factors and signs the treatment card that they are O. K.

The immediate effects upon the patient are the nausea and vomiting. In the very cachectic patients not being treated, there is but little change in the blood picture, either immediately or at the end of six weeks after the treatments. When the pelvis is rayed, there is some bladder irritation. On the third day, the stools increase in number and return to normal on the eighth or ninth day. The headache, nausea, vomiting and weakness are the most distressing symptoms to the patient, but they are transient, usually disappearing after 48 hours. Some patients have very little of these disturbances while others suffer for weeks after the treatments.

The immediate results are encouraging although some cases do not respond at all. There is a sufficient percentage of improvement and some cases with complete disappearance of all visible evidence of the disease to warrant continuing the work.

In conclusion, the author believes we should welcome gratefully the enormous fund of information concerning the physical and biological basis for deep therapy, but exercise considerable reserve as to the clinical results claimed by our European colleagues.



**CONTRAINDICATIONS AND RESULTS IN THE SURGICAL REMOVAL OF THE TONSILS AND ADENOIDS COMPARED WITH X-RAY THERAPY.**—The most common early complication following operation for the removal of the tonsils and adenoids is hemorrhage.

When a peritonsillar abscess is present at the time of the operation, a middle ear or mastoid infection may occur. The introduction of septic material into the circulation directly or by aspiration, may cause septic embolism, lung abscess, acute endocarditis, empyema, pneumonia, sub-diaphragmatic abscess, phlebitis, etc. To show the variation of experiences of different operators, quotations were mentioned from the observations of Fishcer and Cohen, advising the use of local anesthesia to prevent aspiration of the septic material, and also from the writings of Clandering reporting a case of cervical septic adenitis, multiple lung abscess, double empyema and femoral phlebitis following the removal of tonsils under local anesthesia.

The author states that the dissecting away of the small fibroid tonsil necessitates tearing through the chronically infected tissues, thereby opening the lymph and blood channels in the affected area. It seems that in this type of cases, operation is contraindicated as it is not considered good surgery to cut through inflammatory tissue. When infected tonsils are removed, infected lymph follicles in the lateral and posterior pharyngeal walls still remain as sources of focal infection.

In answer to the usual complication set forth by the critics of the x-ray method of therapy to the tonsils, Witherbee states that the dose is only one quarter of that necessary to produce an erythema so that when the proper technic is employed, there is no danger of a burn. When the proper protection is used, the salivary and ductless glands in the region of the tonsil are not directly irradiated and dryness of the throat is the result of poor technic.

Because the fibrous tissue walls off the lymph channels and blood vessels and drainage takes place into the pharynx in cases of concealed tonsillar abscesses, which are revealed after the shrinking of the tonsils, there is no danger of remote septic infection.

The atrophy of lymph tissue of the tonsils, adenoids and of the nasal pharynx permits the crypts to drain and leaves only the connective tissue which is nature's defense against the absorption of focal infection.

The bacteria are not directly affected but an immunity is established by the rays against further activity of the pathological process.

Finally, Witherbee states that the contraindications to operating in no way affect the x-ray method of treatment, and the results are apparent two months after a series of eight treatments at two week intervals.—*Am. Elec. Ass'n.*, Sept., 1922.

**RECENT EXPERIENCES IN THE TREATMENT OF MAMMARY CARCINOMA BY MEANS OF HEAVILY FILTERED X-RAYS.**—For patients suffering from carcinoma of the breast, Merritt states that neither surgery, nor x-ray therapy in divided doses has done more than prolong their lives for variable periods of time, as the records will show that the greatest percentage of these patients die of a cancer death.

With their short experience in the use of the single dose of highly

filtered x-rays in the treatment of cancer, the immediate results are far better than by any other therapeutic measure.

The author thinks that a patient with a mammary carcinoma with adenopathy, has a better chance with the x-ray when the single dose method is used than attempts of eradication of the disease by surgery.

In the cases in which radium needles were used in the growth and the single dose of x-ray followed, there were no clinical differences observed in the results than when the single dose was given without the use of radium.

There is also a plea by the author that all roentgenologists standardize their technic so that comparisons of results may be made.

Merritt believes that the single dose of highly filtered x-rays will become as universally used in the treatment of deep seated growths as the single dose of unfiltered irradiations is now used in the treatment of the skin malignancies.—*Am. J. of Rad.*, Sept., 1922.

**X-RAY TREATMENT OF TONSILS WITH THE CONJOINT USE OF THE ULTRA-VIOLET RAY.**—Pacini states that in the treatment of tonsillar disease, surgical indications exist and should be utilized, but that there appears to be a class of cases in which the x-ray serves eminently well. This is true particularly of hypertrophied tonsils of childhood, and this article deals exclusively with this phase of tonsillar disease.

In childhood, the lymphatic system is dominantly active, and the tonsil being a part of this system, is naturally hyperactive. The author describes minutely the theory of immunization and concludes that the tonsils contribute to the establishment of immunity and are inseparable from the defense usually recognized as natural immunity.

Upon this hypothesis of immunity, Pacini divides tonsillar conditions into three clinical types:

- 1.—Those in which the tonsils are hypertrophied but not excessively reddened, suggesting a minimum bacterial activity.
- 2.—Those in which reddening is present, suggesting bacterial activity but below the point of clinically established infection.
- 3.—Those markedly reddened with systemic evidence of infection.

In the first type, the tonsils are hypoactive, as the power of defense outweighs the power of attack to such a degree that subacute bacterial activity cannot be established to set up immunity. To remove these tonsils surgically, will remove an immunizing organ, but to reduce them in size by the x-ray, to a point where their surface may be affected by pathological organisms, will establish the normal protection to the child.

In the second type of tonsil, the systemic resistance of the child is below par and the tonsil surface has too great an immunizing capacity. Here the x-ray will reduce the increased capacity for bacterial activity in the tonsil, and the ultra-violet ray may be used to cause an immediate germicidal action.

The third type of case is the hypertrophied tonsil which is infected. Here the exudate is not confined to the surface but pus may be pressed from the crypts. This tonsil has lost its immunization power and is a local source of infection and should be removed surgically.

The author concludes that since the active immunizing type of hypertrophy of the tonsil is the one most frequently met in childhood its func-

tion of immunization should be retained by the combined use of Roentgen-ray and ultra-violet therapeutics.—*Journ. of Radiology*, April, 1922.

**THE VALUE OF THE X-RAY IN THE DIAGNOSIS OF TUBERCULOSIS OF THE LUNGS.**—Hamilton limits his discussion of the subject to pulmonary tuberculosis and takes a very conservative view as to the accuracy of the x-ray shadows in the diagnosis of this disease. He states that much depends upon the experience and knowledge possessed by the roentgenologist and his ability to interpret the Roentgen-ray findings.

The author describes the microscopic appearance of the lungs when affected by tuberculosis which cannot be seen in the Roentgen-ray shadows. The gross pathology is also stated. The classification of the disease he uses is according to the location of the infection, although the characteristics of the lesions are described in the text. The author feels that he needs the help of the clinical laboratory in order to establish the diagnosis of pulmonary tuberculosis.—*Long Island Med. Jour.*, May, 1922.

**ECZEMA IN BREAST FED INFANTS AS A RESULT OF SENSITIZATION TO FOODS IN THE MOTHER'S DIETARY.**—Shannon, after an exhaustive study of the condition, reaches the following conclusions:

1. Eczema in breast fed babies is a result of sensitization to food proteins contained in the mother's dietary and transmitted to the infant through the breast milk in at least a majority of cases.
2. Removal of these proteins from the diet of the mother usually results in cure of the condition in the patient.
3. In cases in which all the foods cannot be eliminated from the diet of the mother, limitation of the same will often result in improvement of the eczema, presumably because there is a threshold in the mother up to which the food may be eaten without appearing in the breast milk.
4. Sensitization of the infant may be determined by the cutaneous reaction to the purified food proteins.
5. The erythematous reaction at the site of the test is to be considered as indicating sensitization, and being much more common than the wheal, is correspondingly more important.
6. Sensitization is usually multiple and may be to a majority of the foods in the dietary of the mother.
7. Sensitization tends to become more widespread in a great many cases as time goes on, due to the acquisition of sensitization to new foods.
8. Repeated exacerbations and failures to cure may be due to (a) a lack of co-operation on the part of the mother; (b) sensitization so widespread as to make sufficient limitation of diet impossible; (c) failure on the part of the physician to test for all the foods; (d) the acquisition on the part of the infant of sensitization to new foods, and (e) errors in the procedure of determining sensitization whether avoidable or otherwise.
9. As general prophylactic measures it is recommended that all mothers be cautioned to eat a large variety of foods and a small quantity of any individual article of diet, that eggs be restricted rather than forced in the diet of the mother, and that all cases of eczema be studied early and offending foods eliminated before sensitization becomes so widespread as to make proper limitation of diet impossible.
10. The proper study of all cases of eczema in breast fed infants

that do not yield promptly to the older methods of treatment requires the determination of sensitivity in the infants to all of the foods contained in the diet of the mother, and, in the event of exacerbations, the frequent repetition of these tests. Until the physician has done this he cannot be considered as having done his whole duty to the patient.—*American Journal of Diseases of Children*, May, 1922.

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### SURGERY

Conducted by J. D. ELLIOTT, M.D.

**THE INTRAMUSCULAR ADMINISTRATION OF SODIUM CITRATE. A NEW METHOD FOR THE CONTROL OF BLEEDING.**—Neuhof and Hirschfeld have followed the effects of the administration of sodium citrate on the coagulation and bleeding times in 500 patients, some pathologic and others normal. With the exception of those patients suffering from blood diseases, blood platelet deficiency—haemophilia and purpura—the results were prompt and pronounced shortening of both the coagulation and bleeding times occurred. The shortened coagulation time is of two to three hours duration with gradual return to the normal within 24 to 48 hours. This effect is reached more early and passes away more quickly when the drug is given intravenously. The subcutaneous injection was so painful that this method was given up. The method of choice at present is the injection of 15 c. c. of a 30 per cent. solution into each buttock preceded by an injection of novocaine. There may be some pain, but it is transient in character. No untoward result has been noted in 200 cases in which the drug has been given in this manner.

Internal as well as surgical bleeding, hemorrhage not only in normal individuals, but also in those with prolonged coagulation time were decisively controlled by sodium citrate injections in the great majority of cases. These were cases of oozing surfaces or hemorrhage from small vessels, for control of hemorrhage from large vessels cannot be expected with the dosage of the drug at present employed. In a few cases it was necessary to repeat the injections. Attempts to prolong the shortened coagulation time by repeated doses were not successful for more than four or five days.—*Annals of Surgery*, July, 1922.

**THE PRECURSORS OF CANCER.**—Stajano presents arguments to sustain the view that epithelial cancer is a process of dystrophic nature, consecutive to a pre-cancer lesion which can be readily explained by study of the etiology and pathogenesis of the nervous disturbance which produced it. We must regard traumatism in general and chronic ulceration in particular as something more than a purely local lesion; they disturb the entire nervous system of the region. Epithelial cancer develops only in certain zones; in organs and regions most exposed to traumatism, mechanical or inflammatory and at points most abundantly innervated, with highly differentiated functions. The organs closest to the large plexuses are more vulnerable than remoter regions. The greater the distance between the region and its nerve center, the less liability to persisting lesions, precursors to cancer. The trophic center suffers from a long persisting mild irritation while it repairs rapidly the injury from a single, even

violent, trauma. Cancer research is on the wrong track when it is devoted to the established cancer. The pre-cancer lesions are the ones that will repay study. In his experience the centers responsible for the dystrophias were suffering from senility, natural or pathologic; toxic influences, indigenous or exogenous; infections, tuberculosis, syphilis or smallpox; denutrition of the nervous system, decalcification, traceable to pregnancies, overlong lactation or deranged metabolism; and finally, prolonged emotional stress, grief, depression and worry.—*Semana Medica*.

**THE SURGICAL VALUE OF THE ESTIMATION OF THE BILE PIGMENTATION (Icterus Index) OF THE BLOOD SERUM.**—Stetten calls attention to the need of a simple and practical method of estimating the actual degree of icterus and describes the simple method which Bernhard and Maue worked out at the Lenox Hill Hospital at his suggestion. The centrifuged serum from 5 to 10 c.c. of blood is used. The standard 1 to 10,000 potassium bichromate solution is set at 15 or 20 mm. in the colorimeter and the icterus index is obtained by dividing the reading of the standard by the reading of the unknown serum. Should the color of the serum be too intense to compare with the standard solution, it is diluted with normal saline until its color is nearer that of the standard. When a dilution is made, the resultant figure from the division of the reading of the standard by the reading of the unknown must be multiplied by the dilution figure to obtain the index.

Icterus index determination is of surgical value as an indicator of the absence or presence of jaundice and as an aid to diagnosis in doubtful cases, being more dependable and delicate than the inspection of the skin and sclera, or the examination of the urine. It will accurately estimate, in frank icterus, the pre- or post-operative increase or decrease in the degree of jaundice with the accompanying progression or recession of the disease and will be a guide in differential diagnosis, in the placing of operative indications and in prognosis, in cases of outspoken jaundice, by means of the study of the fluctuations in the index figures.—*Annals of Surgery*, August, 1922.

**THE SURGICAL TREATMENT OF CHOLELITHIASIS, CHOLECYSTECTOMY AND CHOLEDOCHOTOMY.**—O'Connor presents a method of cholecystectomy and of choledochotomy which is simple in execution, which admits of operative rapidity in a zone in which indefinite manipulations is likely to cause shock, which reduces hemorrhage to a minimum, and which from start to finish permits of one being able to see what one is doing. He begins his dissection of the gall-bladder from the fundus and carries it down to the level of the cystic duct. This is more easily done—without traumatism, without hemorrhage—the more the gall-bladder is distended. The gall-bladder is opened and the incision is extended to within one-half inch of the orifice of the cystic duct, the two deep angles of the incision are seized by forceps and the divided cystic artery ligated. The ducts are now carefully palpated and, if a stone is found in the common duct, the assistant makes gentle outward traction on the forceps, the operator changes to the left side of the patient and passes his left index finger into the foramen of Winslow. The calculus is held in position by the left finger and the duct over it is incised. The cystic duct is then ligated and the two flaps of gall-bladder excised. If the common duct has not been opened, if there is the slightest

anaplasia of cholangitis or toxemia, the two large flaps of gall-bladder are snipped away by a curved scissors close to cystic orifice, bleeding vessels secured and no ligature is applied around the duct, which now serves as a useful drain pipe. All patients are transferred as soon as feasible to "the continuous outdoor" and the effects of fresh air and sunlight have been most gratifying.—*Annals of Surgery*, August, 1922.

## UROLOGY

Conducted by LEON T. ASHCRAFT, M.D.

**URETERAL OBSTRUCTION: FAILURE TO RECOGNIZE THE CONDITION AS A FREQUENT CAUSE OF UNNECESSARY OPERATION.**—Ureteral obstruction, though not uncommon, is frequently overlooked. Its disturbances, therefore, are often misinterpreted and improperly treated. Failure to recognize ureteral obstruction is due chiefly to the variety of its causes and secondary urological changes, and to the anatomical relations of the ureter to adjacent organs. Sanes has found that of all the abdominal organs the appendix is most commonly involved in such diagnostic errors. This is within the opinion of the excerpter as well. Next most frequently involved are the pelvic organs in the female because of their relation to the ureters and the not uncommon exacerbation of ureteral disturbances during menstrual periods. Disturbances caused by ureteral obstruction are incorrectly attributed also to diseases of the rectum, colon, ileum, seminal vesicles, etc. The author calls attention to the importance of good clinical histories, a physical examination of the urinary tract and organs adjacent to the ureter, careful urinalysis, and an investigation of the urinary tract with the aid of cystoscopy and urography. Diagnostic measures in ureteral obstruction are discussed in detail. Sanes regards urography as the most valuable aid in the diagnosis of ureteral obstruction; and, if we may be permitted to add, urography is a most valuable aid in the differential diagnosis of abdominal pathology, and should always be practiced where there is any element of doubt.—*Journ. Am. Med. Assoc'n.*, lxxviii, 475.

**HISTOLOGY AND MORTALITY OF TUMOR OF THE BLADDER.**—Three hundred and thirty-three bladder tumors removed from patients at the Mayo Clinic were reviewed in an effort to determine the mortality of the various histologic types of neoplasm. In 262 of the 333 cases complete post-operative records were obtainable.

**Papilloma and epithelioma.** Of 168 tumors originating in the bladder mucosa, seventy-one were malignant and three benign papillomata, while ninety-four were either solid epitheliomata or carcinomata; all were removed surgically. Of the three patients with benign papilloma, two are living six years after the operation, and one four years after the operation.

Twenty-six (36.8 per cent.) of the patients with malignant papillomata are dead after an average duration of life of eleven and one-half months, while the remaining forty-five (42.3 per cent.) have lived an average of two years and three months.

Sixty-seven (71.2 per cent.) of the ninety-four patients with solid carcinoma are dead after an average duration of life of seven and one-half months. The other twenty-seven patients (28.8 per cent.) who are alive have lived on an average three years and three months.

In either type of malignancy, patients surviving the first year have a fairly good chance of ultimate recovery.

*Squamous-cell carcinoma.* Of the series of 262 cases, six were cases of squamous-cell carcinoma; three of these were inoperable. The average duration of symptoms was only three months. In one of the three operable cases a recurrence appeared within four months after operation and the patient died about eight months later. The second patient died six months after operation. The third is living and well nine years after operation. This is an extremely malignant type of tumor. The onset is insidious and in most cases the growth is not discovered until it has infiltrated the bladder wall extensively.

*Adenoma and adenocarcinoma.* Five adenocarcinomata were found in the series. One of these patients died two years after operation and one had a recurrence in two years. Of the remaining three, who today are well, two were operated upon six months ago, and one, two years ago. The majority of tumors of this type occur in the upper portions of the bladder. They are slow to metastasize and if a complete resection is done the chance for recovery is good.

*Angioma.* There were three cases of angioma. One patient, a girl of 7 years, died of hemorrhage from a tumor growing from the bladder to the rectum. The second patient was a man 76 years of age whose growth was inoperable. The third patient, a girl of 19 years of age, had a large tumor in the dome of the bladder, but is now living and well five years after the removal of the growth. Angiomata have a tendency to bleed readily. In some cases they grow to enormous size, causing distress by pressure on neighboring structures.

*Myoma.* These tumors were uncommon, only one being seen in the series of cases reviewed. This was found in the case of a man 50 years of age who is now living and well eight years after operation. Myomata are frequently mistaken for extravesical growths because they are covered by fairly normal bladder mucosa.

*Myxoma.* Two specimens of myxoma were noted in the series. One occurred in a child of two years who died two months after the removal. The other was found in a child of 16 months and was inoperable; death followed nine days after operation.

*Sarcoma.* The single sarcoma in the entire series was inoperable and was observed in a woman 30 years of age who died two years after an exploratory operation. Cases of sarcoma and myxoma are very poor surgical risks; death occurred in over 50 per cent. of the reported cases within six months after operation.—*Surg., Gynec. and Obst.*, 1922, xxxiv, 189.

**VESICAL TUMORS.**—It is at least gratifying in performing radical operations in cases of vesical tumor to know that the possibility of a distant lesion is slight. It seems that under these circumstances the results of operation should be better. While local recurrence is very uncommon following radical operations for cancer of the breast, stomach

and kidney, it is often found following operations for cancer of the bladder. If some method can be devised for reducing the local recurrences in these cases, the results will be better than those obtained by operations for cancer in other regions.—*Journal of the American Medical Assn.*

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#### PAEDOLOGY

Conducted by C. SIGMUND RAUE, M.D.

**VOLVULUS OF THE SIGMOID.**—Hays reports five cases of volvulus, four of which recovered. As strangulation of the intestine, as well as obstruction, is present these cases are always serious and require very prompt treatment. No purgatives are to be given, but enemata should be tried given in the knee-chest position. If no result is obtained after one or two enemata, surgical interference should be undertaken at once.

The incision is to be made on the left side, the volvulus untwisted and in the author's opinion a resection should be done in all cases. To return the bowel to the abdomen after untwisting does not seem to be a good surgical procedure when it can easily be resected and an anastomosis performed. While adhesions may be divided, it is a well-known fact that they nearly always reform and many times are more strong and dense than the original ones. If they have much to do with the cause of a volvulus of the sigmoid they will again aid the twisting. Nothing can be done with the contracting mesenteritis to avoid recurrence. This contraction causes the proximal and distal tubes of the sigmoid to be drawn together as well as the foot points and renders the twisting more easy. The constipation is not changed by simply untwisting the sigmoid. Even in cases in which the bowel is not viable, and in which there is fluid in the abdominal cavity of colonic odor, resection can be done with safety. It is best to leave about six inches of the proximal and distal parts of these giant sigmoids, a lateral anastomosis can then easily be done and this will leave a certain part of the sigmoid to again act as a reservoir.

Hays believes that those cases which have recurring volvulus of the sigmoid have had a colon infection of the peritoneum so often that they have formed an autogenous vaccine which enables them to overcome the inflammation. Therefore, he can see no reason why the risk should not be taken and cure the patient of the volvulus and at the same time of his constipation.—*Annals of Surgery*, June, 1922.

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#### DERMATOLOGY

Conducted by RALPH BERNSTEIN, M.D., F.A.C.P.

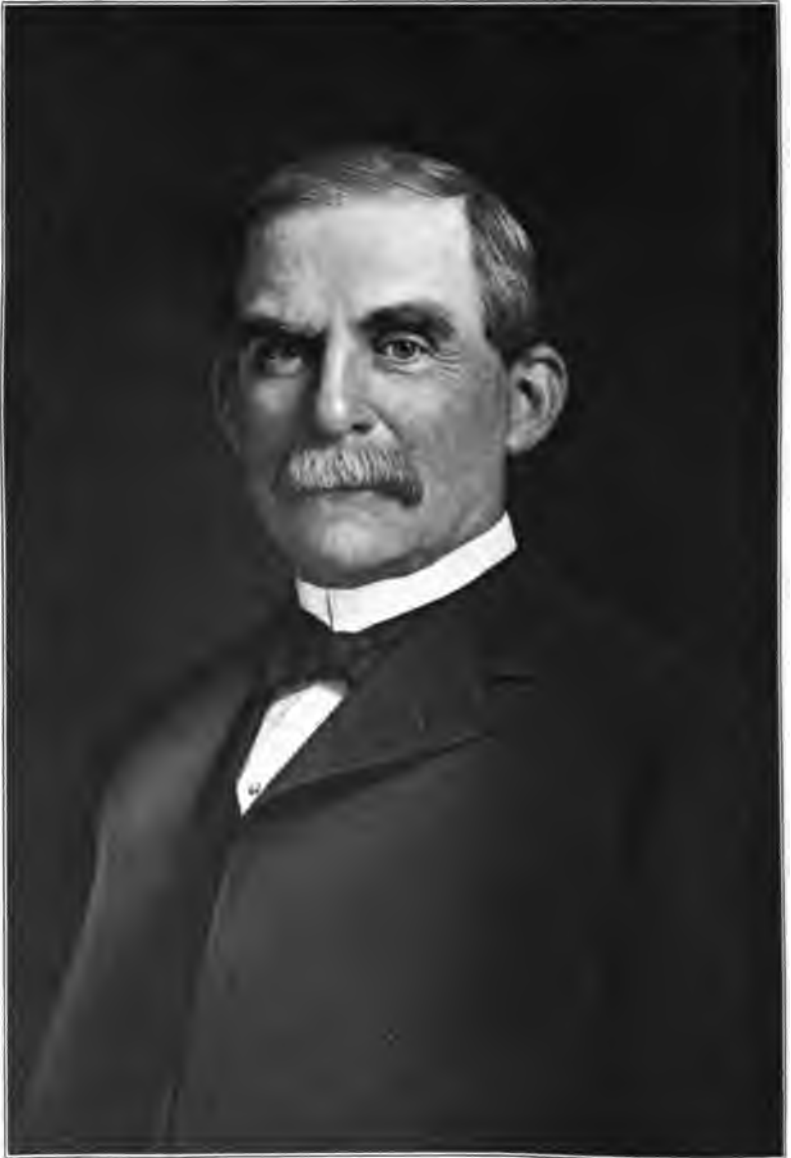
**FREEZING IN STAPHYLOCOCCUS INFECTION.**—Bockenheimer treats staphylococcoses (boils and carbuncles) by freezing three times a day for one minute, hastening the freezing with a current of air from a bulb while protecting the surrounding area with ointments. A favorable effect is produced by the hyperemia which occurs after thawing. Early diseases can be aborted and there is rapid falling off of the neurotic tissue or abscess formation in advanced cases. The treatment is simple and painless and results in rapid cure without disfiguring scars.—*Deutsch. med. Wochenschr.*



**SPECIFIC LOCAL TREATMENT OF FURUNCULOSIS.**—Wassermann reports that Fenner showed that the cells present in an allergic skin focus are capable of combining the antigen for which they are hypersensitive, and also that these cells are more strongly toxin-sensitive for this antigen than they were before. He also showed that the allergy of the skin cells, on repeated administration of the antigen at the same point on the skin, is followed by anergy, that is insensitiveness. In furunculosis the skin has become allergic to staphylococci. The author observed this in the course of a prolonged furunculosis from which he suffered. Especially at the height of the disease the quickened skin reaction, so characteristic of allergy, was observed. While the first furuncle required a long time for development and maturity, the later ones developed very rapidly. Therefore while the first furuncle is a pure infection, furunculosis is illogically an allergy resulting from the first staphylococcus infection. The fact that the allergic cells have increased capacity for combining with antigen and that the continued administration of antigen is capable of transforming the allergy into energy served as a starting point for experiments in treating furunculosis. The author used histopin, an extract of living staphylococci which has been used for local immunization against staphylococci of the skin, prepared in the form of a plaster (under the trade name of histoplast). When a furuncle is covered with this plaster, after one-quarter to one-half hour there is an increase in the objective symptoms. These symptoms pass in a short time, however, and small infiltrations become almost completely painless, whereas in larger ones there is a considerable decrease in pain. The antigen is allowed to act until the pain stops completely. Smaller infiltrations undergo retrogression within two or three days. In larger ones where necrosis has already taken place, within two or three days the core becomes so loose that it comes away spontaneously and painlessly with the plaster or can be removed by slight pressure.—*Monat. med. Wchnschr.*

**FURUNCULOSIS.**—According to Sinclair Tousey, boils, especially in the back of the neck, start from small pimples and if treatment is begun the moment the pimple is observed, the development of the boil can usually be prevented. The simplest and best treatment at this stage is to moisten a rough cloth like a wash cloth, in alcohol, or with soap suds and rub the pimple with considerable pressure; this treatment should be repeated twice a day and should be sufficiently vigorous to denude the apex of the pimple, so that the cloth becomes blood stained. When a pustule has been formed the same treatment is effective, but a protective covering spread with boric-acid ointment is also desirable. If a number of these boils occur in succession, a systemic cause should be sought. A careful examination of the teeth and other possible foci of infection should be made, and all such foci removed. Whether such focal infection is present or not, a combination of phosphorated oil and cod-liver oil will be found very useful as a general tonic. Hypophosphites may be used but are less satisfactory. In persistent cases ionic medication is beneficial. For this the 2-in. positive electrode is moistened in a 0.5% solution of zinc sulphate, and a current of 5 ma. applied for five minutes. Other electric, roentgenologic, or radium treatments may be necessary for systemic or location conditions found in these cases.—*Amer. Jour. Electrother. and Radiol.*, June, 1922.





THE LATE CHARLES FRANCIS BINGAMAN, M. D.

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# THE HAHNEMANNIAN MONTHLY.

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NOVEMBER, 1922

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## THE INTERPRETATION OF THE ELECTROCARDIOGRAM\*

MILTON J. RAISBECK, M.D., NEW YORK

THE electrocardiogram is a written record of certain events which take place during each phase of cardiac activity. These records can be secured with ease and without discomfort to the patient; when immersion electrodes are used (Fig. 1), the patient is seated and places each hand and the left foot in basins of salt water. Contact electrodes of German silver or lead foil may be attached to the extremities with the patient in any position; they are required for patients in bed and can also be utilized (Fig. 2) for ambulant cases. The electrocardiographic method, furthermore, is an impersonal one; with standardized apparatus the personal equation of the operator cannot enter and the records published in all countries are comparable, giving objective evidence that is sound and reliable.

This method has now to its credit practically the complete elucidation of all the cardiac arrhythmias and has given to the physician at the bedside data which makes their clinical recognition possible in a large percentage of cases. It has enabled us also to go beyond the arrhythmias *per se* and unravel the intimate mechanisms in the heart muscle, such as circus movements, which in turn result in irregularity. A new light has thus been thrown on the pharmacology of all the drugs acting upon the heart, and the greatest advance in recent years in cardiac therapy, the use of quinidin, is becoming solidly established on reliable evidence afforded by the electrocardiograph. Recent researches are carrying this method into the

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\* Presented at the Philadelphia County Medical Society Meeting at Philadelphia, December 8, 1921. Owing to lack of space the paper has been abridged and condensed and the number of illustrations reduced.

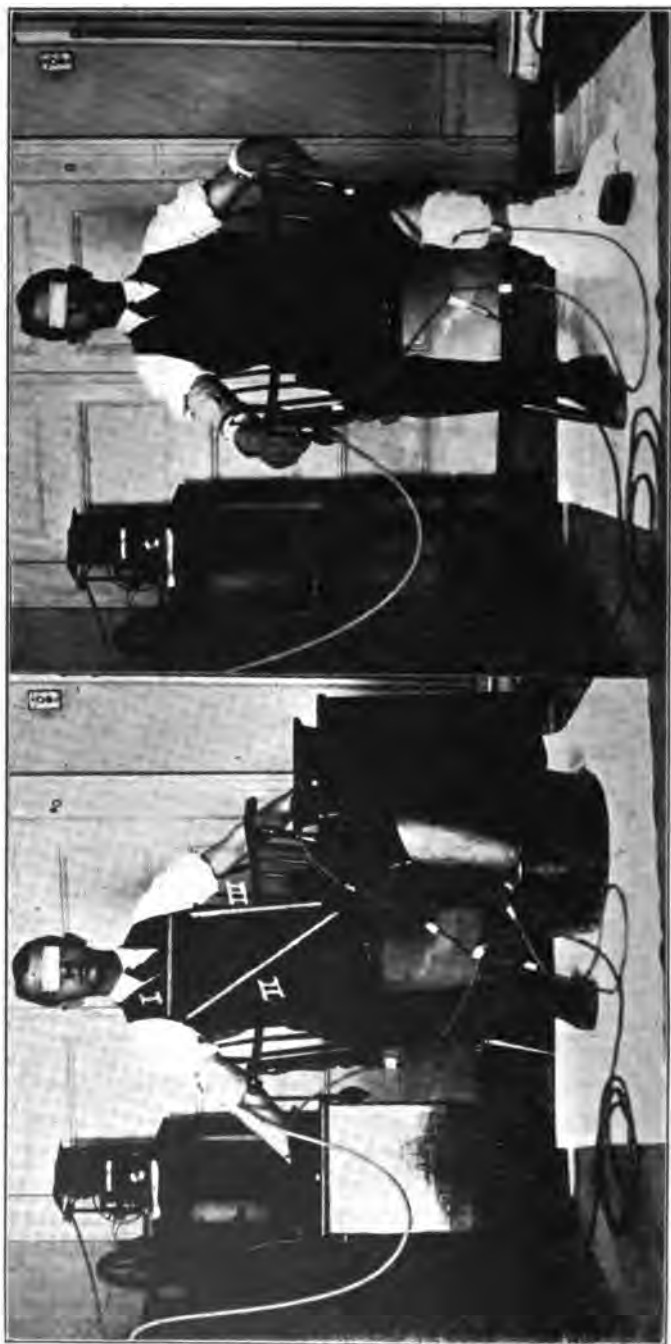


Fig. 1.  
IMMERSION ELECTRODES.

Fig. 2.  
CONTACT ELECTRODES.

study of myocardial disease, such as coronary thrombosis and the still mysterious pathology underlying anginal manifestations, both in irregular and in regular hearts.

Modern conceptions of heart disease owe much to the electrocardiograph and the method promises more in the future. These are some of the reasons why the interpretation of these records should be more generally understood. They are comparatively simple—far more simple to interpret, for instance, than polygraph records—and will open to the reader a new field of interest in current medical literature.

It is worthy of note that the electrocardiogram in any particular individual is remarkably constant from a few months after birth throughout life and is marked by personal peculiarities which differentiate it from all other electrocardiograms. Any change in a particular electrocardiogram, therefore, takes on great significance and the study of serial records may give invaluable information on the changes that are taking place as the result of disease in the heart muscle. From a great number of electrocardiograms of normal people a generalized or ideal form has been evolved which we may call

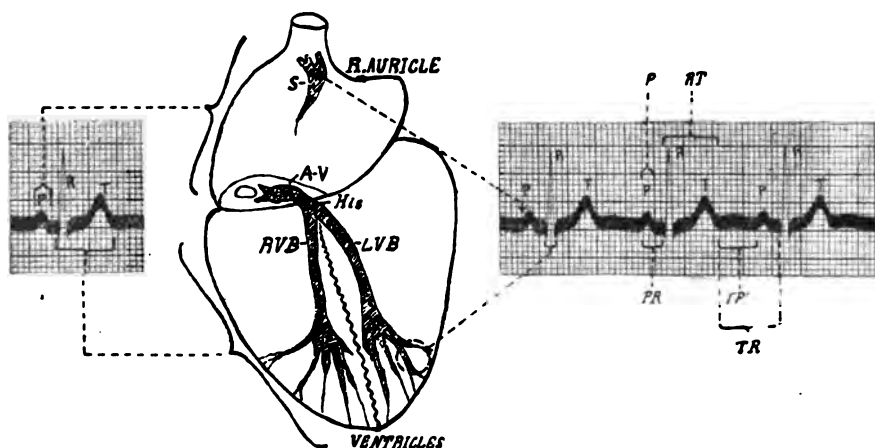


Fig. 3.

SCHEMA OF THE CONDUCTION SYSTEM (AFTER WIGGERS) CORRELATED WITH THE ELECTROCARDIOGRAM

S: Sinus Node or Pacemaker.  
A-V: Auriculo-Ventricular Node.  
His: Main stem of Bundle of His.  
RVB) Right & Left Ventricular  
LVB) Branches of the Bundle of His.

P: Systole of Auricles.  
RT: Systole of Ventricles.  
PR: Conduction time: here measures 0.14 sec.  
TP: Diastole of entire heart.  
TR: Diastole of Ventricles.

the normal electrocardiogram (Fig. 4); variations from this which are the result of disease can easily be recognized and interpreted with great precision, in relation to the events that take place in the heart during a complete cardiac cycle.

A small mass of differentiated tissue situated in the wall of the right auricle near the origin of the superior vena cava normally has the property of elaborating excitation impulses at a more rapid rate than any other structure in the heart; it is familiar as the sino-auricular or sinus node and has been called the pacemaker because it leads and sets the pace of the

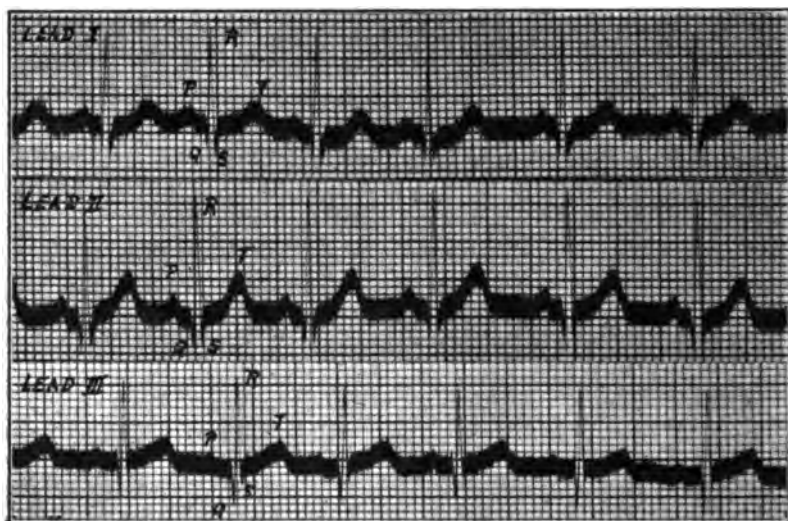


Fig. 4

**NORMAL ELECTROCARDIOGRAM.**

(The leads will be indicated throughout by Roman numerals I, II, III)

heart. The start of the excitation wave is marked in the electrocardiogram (Fig. 3) by the beginning or foot-point of the P-wave and is followed by contraction or systole of the auricle, to which the P-wave corresponds; it is normally an upright, small, rounded deflection. During auricular systole, while the P-wave is being registered, a small increment of blood is being added to the almost filled ventricles through the open tricuspid and mitral valves, and the initial pressure in the ventricles is developed.

In due course the excitation process passing through the auricular wall reaches the auriculo-ventricular or a-v node,

at the upper end of the conduction system. From the a-v node, which is continued downward by the bundle of His, the impulse passes through the main stem, then through the right and left branches, and finally to the terminal branches (the Purkinje fibres) of the conduction system. When the excitation wave reaches the myocardium ventricular activity begins, shown in the electrocardiogram by a series of sharp waves, the QRS group or initial ventricular deflections, of which the R-wave is the most constant component. Q and S may both be absent. The QRS group never normally exceeds 0.10 second

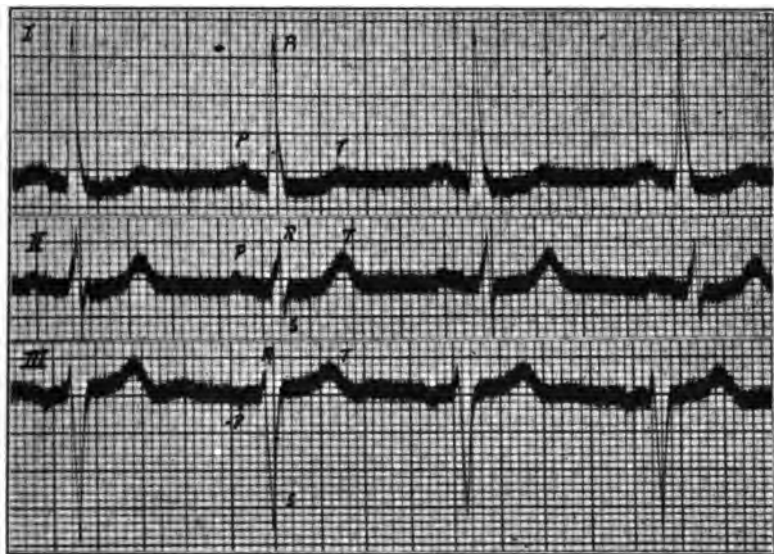


Fig. 5

**LEFT VENTRICULAR PREPONDERANCE:  
HIGH R IN I AND DEEP S IN III.**

and the deflections are sharp and clean cut, without notching (except at times in lead III). The R-wave is tallest in lead II (Fig. 4), the record obtained when the patient's right arm and left leg are connected with the string galvanometer. Lead I represents the changes in electrical potential recorded between the right and left arms and lead III between the left arm and left leg (Fig. 1).

The distance on the curve from the foot-point of the P-wave to the foot-point of the QRS group (conventionally called the P-R interval even when Q is present) marks the time



that has elapsed from the beginning of auricular activity to the beginning of ventricular activity, and that has been taken up by conduction of the impulse from the sinus node in the auricle to the ventricular muscle. It is measured on curves by means of vertical lines which fall at intervals of 0.04 (or  $1/25$ ) second and normally the P-R interval does not exceed five small divisions or 0.20 (or  $1/5$ ) second.

It will be observed that contraction of the auricles is accompanied\*\* by the production of a single rounded wave, whereas events in the ventricle give rise to the more complex QRS deflections. This has been explained by differences in the manner of contraction of the upper and lower chambers. The auricle consists essentially of a simple sac formed by a



Fig. 6  
RIGHT VENTRICULAR PREPONDERANCE:  
DEEP S IN I AND HIGH R IN III.

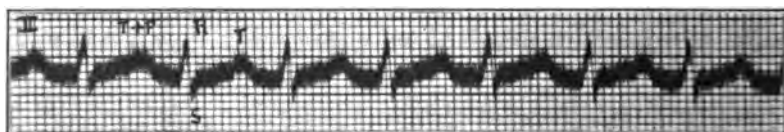


Fig. 7  
DELAYED CONDUCTION WITH SUMMATION OF T AND P.

\*\* In reality immediately preceded by the production of the electrical change. For ordinary clinical purposes the minutiae of electro-physiology need not be discussed in this paper.

sheet of muscle; the contraction wave spreads over it gradually and in regular sequence. The ventricles are supplied by a complex conduction system (Fig. 3) that brings the excitation wave normally to every point of the sub-endocardial layer of the myocardium at the same instant: the result is a single, sudden, and massive contraction of both ventricles, initiated as the QRS group is registered in the record. The QRS group belongs, therefore, to the period of invasion of the ventricular muscle by the excitation wave.

Following the QRS group, a rounded usually upright wave appears, known as the T-wave. Its exact mechanism of production is undetermined and its clinical significance is obscure. We do know definitely that the end-point of the T-

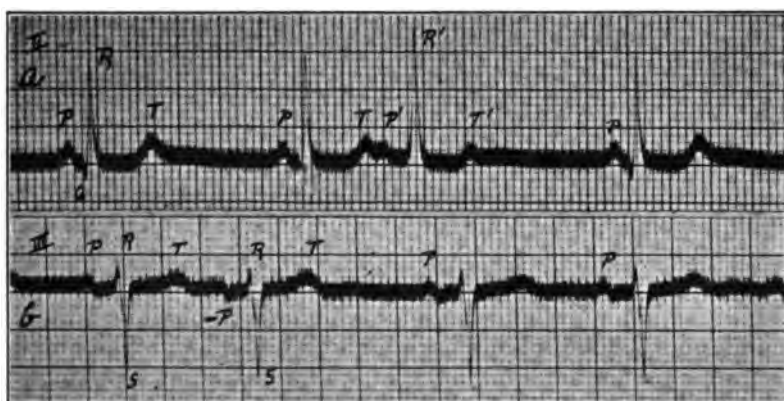


Fig. 8

- a: AURICULAR PREMATURE CONTRACTION AT P'.  
 b: AURICULAR PREMATURE CONTRACTION AT -P.  
 (Curves taken from two different patients)

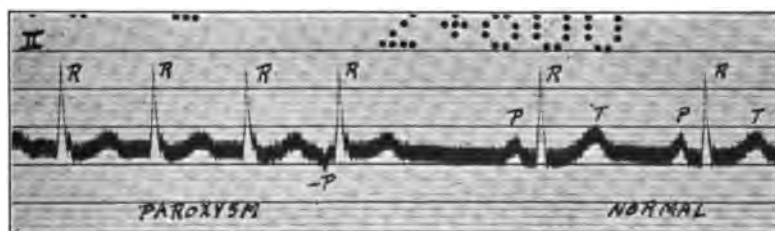


Fig. 9

**OFFSET OF A PAROXYSM OF AURICULAR TACHYCARDIA.**

During the paroxysm the abnormal P-waves are submerged in the ventricular complexes.

wave, where it merges into the iso-potential or base line, indicates the end of ventricular systole and the beginning of the diastolic relaxation of the ventricular muscle; it is the terminal ventricular event shown in the electrocardiogram. At times the T-wave is followed by a long and low U-wave which is an early diastolic event of unknown significance. Diastole of the whole heart (TP, Fig. 3) is measured by the segment of the curve between the end of the T-wave and the foot-point of the following P-wave. Diastole of the ventricles is measured by the portion of the electrocardiogram between the end of the T-wave and the beginning of the QRS group of the following

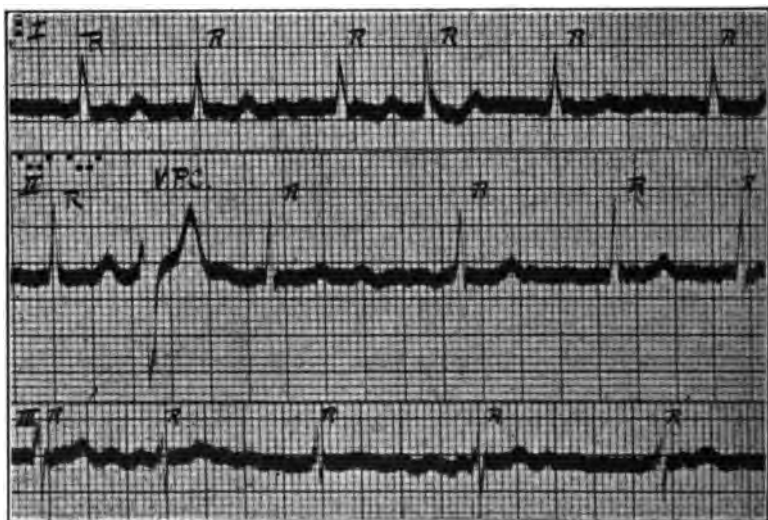


Fig. 10

**AURICULAR FIBRILLATION.**

Showing a Ventricular Premature Contraction (V. P. C.) in Lead II.

complex. Auricular activity (P-wave) occurs while the ventricles are still relaxed and initiates the following ventricular contraction.

The information which the electrocardiogram can give can be shown by examples which illustrate the principles of interpretation to be applied in the study of curves. These may be classified roughly according to the portion of the curves that is affected.

**HYPERTROPHY.**—The size of the heart can not be determined from the electrocardiogram, but it may often supply valuable information concerning the relative size of the ven-

tricles when gross enlargement exists. The electrocardiogram in any one lead may conform to the description of the normal type, but show changes in the relative heights of the R-waves in the three leads; such changes have been associated with unequal hypertrophy of the ventricles. When R is highest in lead I and a deep S is present in lead III the electrocardiographic picture has been said to indicate *left ventricular preponderance*; that is, a disproportionate increase in mass of the left ventricular muscle (Fig. 5). When R is tallest in lead III with a deep S in lead I, it has been taken to indicate *right ventricular preponderance*, or disproportionate hypertrophy of the right ventricle (Fig. 6). Such variations may be due, in part at least, to changes in the anatomical axis of the heart, and should be accepted as evidence of actual preponderance only in the presence of marked gross enlargement.

**CONDUCTION DEFECTS IN THE MAIN STEM OF THE BUNDLE OF HIS.**—The topic of block can be developed at great length and this at times has given the impression that the chief function of the electrocardiogram is to give information about heart block. Incomplete heart block is said to occur when some of

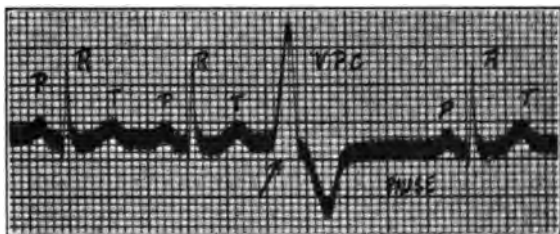


Fig. 11

**VENTRICULAR PREMATURE CONTRACTION.**

The arrow indicates the widening described which here equals 0.12 sec.

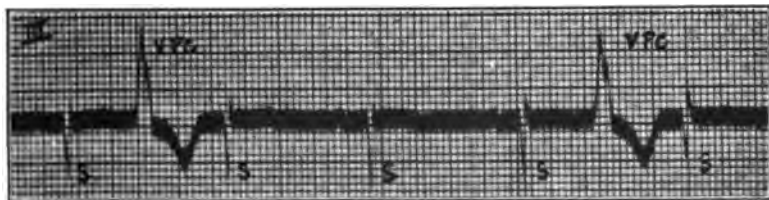


Fig. 12

**INTERPOLATED VENTRICULAR PREMATURE CONTRACTIONS.**

The S-waves of the dominant rhythm are equally spaced.

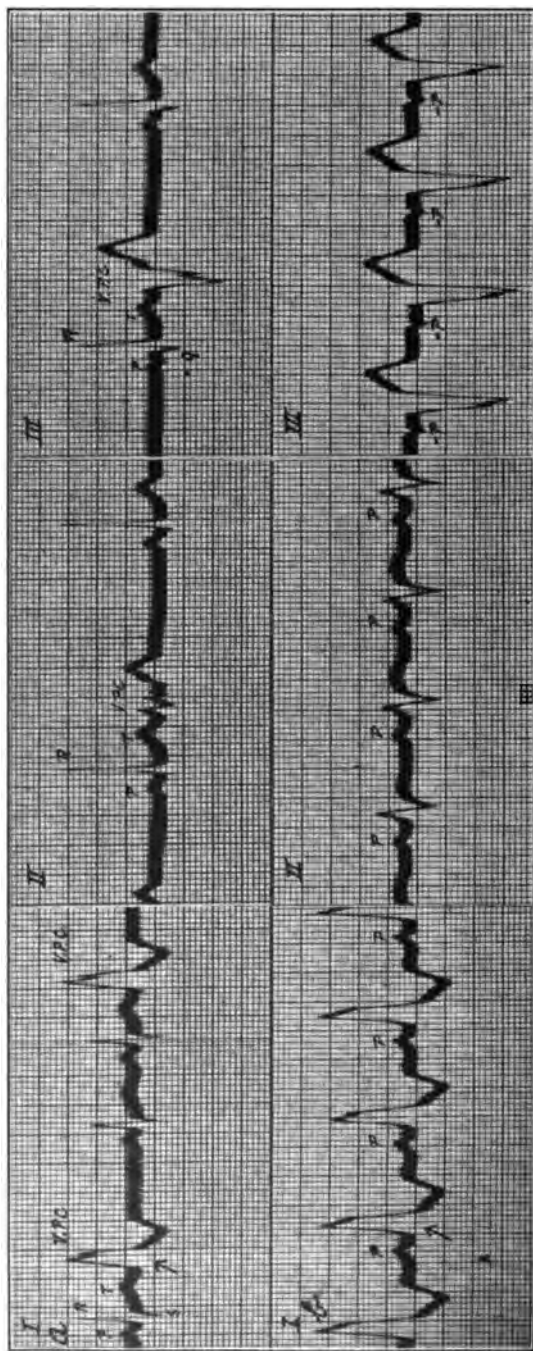


Fig. 13

a: NORMAL DOMINANT RHYTHM INTERRUPTED BY PREMATURE CONTRACTIONS ARISING IN THE WALL OF THE LEFT VENTRICLE.  
 b: RIGHT BUNDLE BRANCH BLOCK: SINUS RHYTHM, IMPULSE CARRIED TO LEFT VENTRICLE FIRST AND THEN SPREADING TRANS-  
 VERSELY TO RIGHT VENTRICLE.

the impulses from the auricle fail to reach the ventricle on account of depressed function of the conduction system, usually at the a-v node. Complete block occurs when no impulses from the auricles can reach the ventricles because of a lesion of the main stem of the bundle of His, either syphilitic or atheromatous in nature. Partial block is unusual and complete block is rare; although the electrocardiogram reveals both conditions admirably, their relative infrequency diminishes their importance to the general practitioner.

A commoner form of conduction disturbance is extremely important, however: incipient block or simply delayed conduction. Here again the general conformation of the curves is often only slightly disturbed. All impulses are carried from auricles to ventricles but the rate of conduction is slowed so that the distance from the foot-point of the P-wave to the QRS group measures more than 0.20 or  $1/5$  second. The heart is regular and the condition cannot be detected by ordinary clinical means. It is extremely common as the first sign of toxic effect upon the heart in the various types of rheumatic infection and may give evidence of cardiac involvement in the early acute stages of illness before endocardial murmurs or other conclusive signs appear. It may also reveal involvement of the heart in other infections where it is least suspected, as in a case of cystitis described by Lewis, in cases where disregard of the heart may lead to serious damage. In sub-acute or chronic cardiac ailments its presence is often valuable in definitely establishing organic affection where the clinical picture is obscured by diverse gastro-intestinal, neurotic, or other apparently irrelevant symptoms.

The condition is recognized by measuring the P-R interval (from the foot-point of P to the foot-point of the first wave of the QRS group) which will be found to measure more than five small divisions on the curve. The other features are normal. In marked examples when tachycardia also is present, the delay between the P-wave and the ventricular portion of the curve may be responsible for a peculiar picture. As R and T are retarded in their appearance, the P-wave of the following complex occurs while T is still being recorded. As a consequence the T-wave may appear bifurcated (one summit consisting of the following P-wave) or the two waves may be exactly superimposed, as seen in Fig. 7, taken from a case of rheumatic carditis. Here only one wave, T + P, is seen between the R summits and T and P are said to be summated.

Before assigning a pathological significance to delayed conduction, the possibility of drug action must be ruled out. Conduction is depressed by members of the digitalis group, including strophanthus, squills, etc. To eliminate such disturbing influences it should be ascertained that none of these has been administered within two weeks of taking the record. After very heavy digitalization some effect may possibly persist three weeks and more.

**AURICULAR ABNORMALITIES.**—Normally the sinus node (Fig. 3) maintains its function as pacemaker and the normal P-waves indicate the orderly progression of the impulse in a

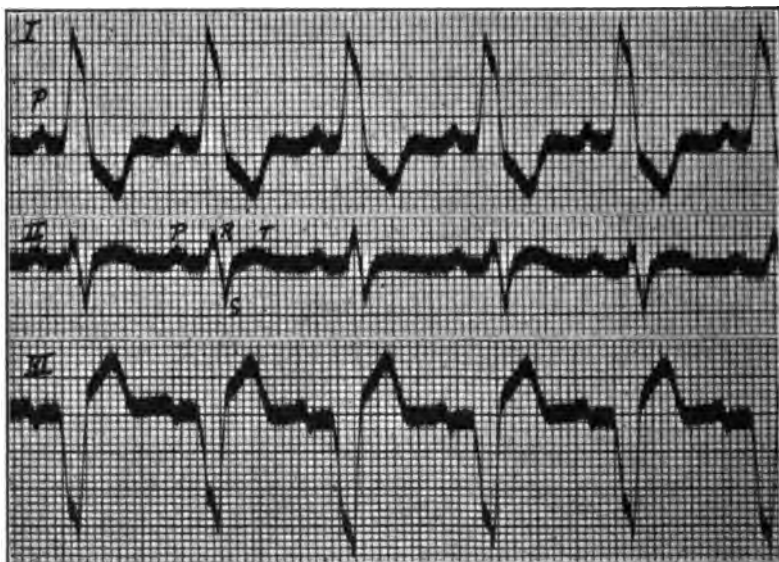


Fig. 14

**RIGHT BUNDLE BRANCH BLOCK.**

definite direction through the auricular wall. Occasionally a focus in the wall of the auricle will give rise to a single premature impulse to which the ventricle duly responds, constituting an *auricular premature contraction* or *auricular extrasystole*. The premature P-wave will vary in form from the other P-waves in the curve. In the examples shown, the premature P-wave is upright but smaller than the normal P-wave for that particular patient in Fig. 8a, and in Fig. 8b the abnormal P-wave is completely inverted. In Fig. 8a the new focus is probably near the normal pacemaker, whereas in Fig.

8b the abnormal wave arises in a lower level of the auricular wall. In each case the P-wave is altered, indicating an abnormal course of the excitation process through the auricle because of an abnormal point of origin.

A series of premature auricular beats constitutes a *paroxysm of auricular tachycardia*, in which the abnormal or ectopic focus in the auricular wall usurps the function of pacemaker because it liberates impulses more rapidly than the sinus node. Such paroxysms are characterized clinically by their sharp onset and offset. In Fig. 9, showing the offset of an at-

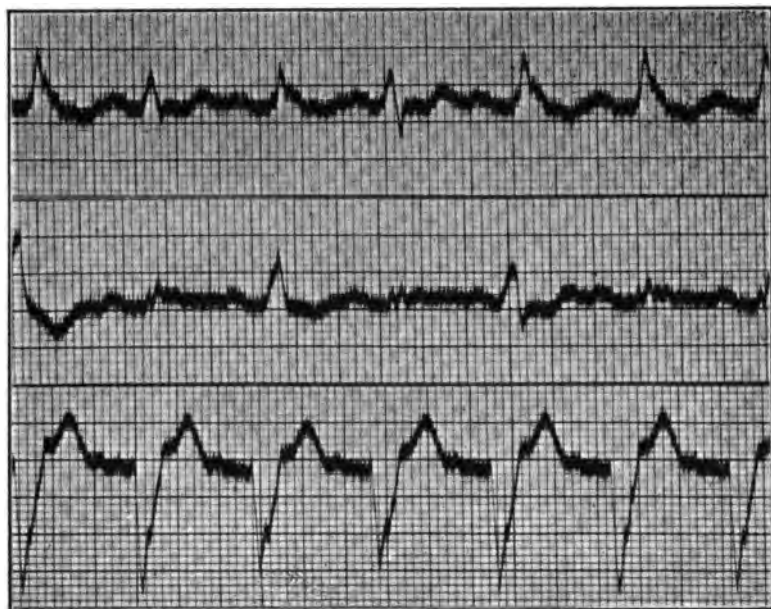


Fig. 15

RIGHT BUNDLE BRANCH BLOCK, WITH VARIATIONS IN AMPLITUDE.

tack, changes in the P-waves occur which are associated with the breaking up of the ectopic rhythm.

In *auricular fibrillation*, where no orderly systole of the auricles occurs, the normal sequence of the P-waves in the curves is lost. The ventricular complexes appear at irregular intervals (R-waves in Fig. 10) while the string shadow between them is quiescent or oscillates irregularly. When such oscillations are marked, it may be difficult to distinguish the T-waves distorted by them. The condition can be recognized



by the irregular spacing of the R-waves and the absence of true, rhythmic P-waves.

**VENTRICULAR ABNORMALITIES.**—The commonest of these is the *ventricular extrasystole* in which a focus in a wall of one of the ventricles gives rise to an impulse causing ventricular contraction before the normal impulse is due from the auricles above. The abnormal ventricular contraction, therefore, is too early, whence the name premature contraction. The excitation wave follows an abnormal course as it arises in

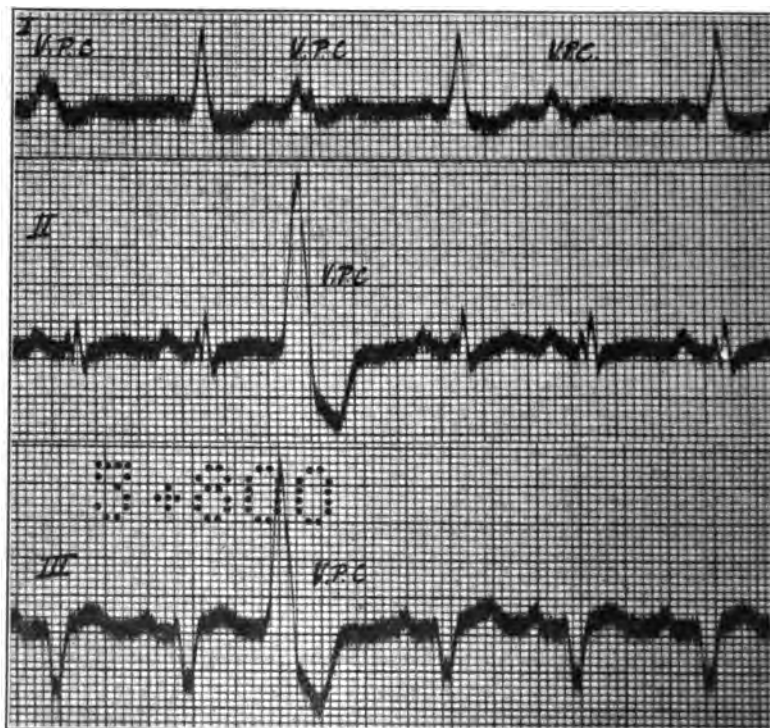


Fig. 16

**BUNDLE BRANCH DEFECT.**

Ventricular Premature Contractions (V. P. C.) arising in the wall of the right ventricle. In lead I they occur every second beat, producing bigeminal rhythm.

one side of the heart in the ventricular wall and passes transversely to the other, instead of reaching all parts of the sub-endocardial myocardium at once as normally occurs. The side to side transmission of the impulse is revealed in the electrocardiogram by a distinctive sign: a spreading of the

first ventricular deflection (corresponding to the R or S-wave of a normal curve) more than  $2\frac{1}{2}$  scale divisions, indicating a duration of more than 0.10 second, followed by a large rounded wave of opposite direction (Fig. 11). Ventricular extrasystoles are also shown in Figs. 10, 12, 13 and 16). As this evidence of ventricular activity does not occur in response to an impulse originating in the auricles, it is not preceded by a P-wave. The normal excitation wave coming down through the bundle of His and its ramifications finds the ventricle in contraction and unable to respond; consequently the normal cycle fails to appear at the proper time in the curve and the premature contraction, therefore, is followed by a long pause until the next normal impulse from above reactivates the ventricles. When this pause and the short one before the extrasystole suffice to equal in length two normal cycles, the long one is called a compensatory pause. At times ventricular premature contractions may occur between beats of the dominant rhythm without disturbing its normal sequence (Fig. 12); no compensatory pause is then present and the abnormal beats are actually extra beats or extrasystoles; to avoid confusion they are termed *interpolated extrasystoles*. When premature ventricular contractions occur at every second beat (Lead I in Fig. 16) a condition is present which is known clinically as bigeminal rhythm.

MYOCARDIAL DISEASE.—The newest and most interesting chapter in electrocardiography deals with the evidences of myocardial disease, particularly in regular hearts where the electrocardiogram may give the only significant information. Changes in the curves resulting from muscle injury may be due to interference with conduction within the ventricles, affecting a branch of the bundle of His, usually the right branch as in the examples shown (Figs. 13b, 14, 15 and 16). This branch is more commonly affected as it runs a longer and more unprotected course. The lesions may be ischemic or degenerated areas due to a closure of a coronary branch, gradually by atheromatous processes or more suddenly by thrombosis, or may be syphilitic in nature (gummata). In such cases of bundle branch block normal impulses from the auricle reach the conduction system in regular sequence, but as the right branch is blocked the left ventricle first receives the impulse which must then cross transversely to the right ventricle. We again find the evidences de-

scribed above of side to side transmission in the ventricles. Whereas the complex concerned in premature contractions is an isolated and sporadic event (Fig. 11) which disturbs a dominant rhythm, in bundle branch block all the complexes are of abnormal form (spreading of QRS) but are regular in rhythm. The similarity in form due to side to side transmission in the two conditions is illustrated in Fig. 13. Fig 13a is a curve from a young girl of twelve with mitral stenosis of rheumatic origin; irritative foci in the myocardium were probably responsible for the excessive number of extrasystoles. The curve 13b shows bundle branch block following coronary thrombosis in a man of sixty-five, associated with arterio-

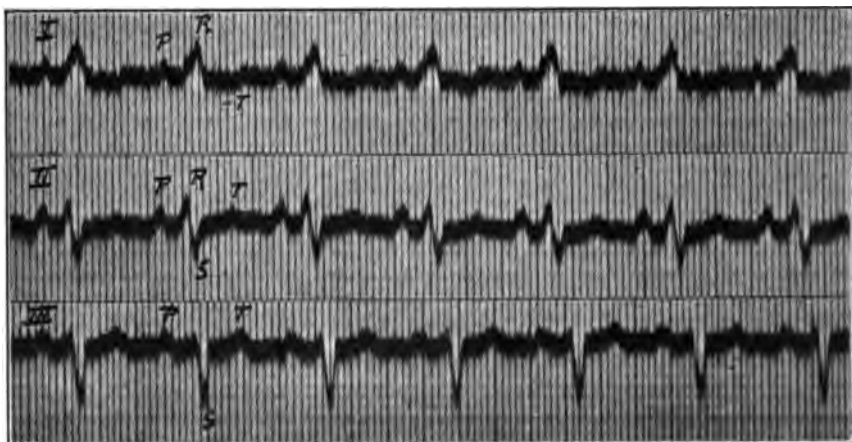


Fig. 17

**ARBORIZATION BLOCK, SO-CALLED.**

Low amplitude and notching of the initial ventricular deflections, particularly characteristic in lead I.

sclerotic aortitis, chronic degenerative vascular changes, and nephritis.

Myocardial damage may also produce other changes in the electrocardiogram: constant variations in amplitude of the QRS group, as seen in Fig. 15, or notching with lessened amplitude shown in Fig. 16 and particularly in Fig. 17. In both types some prolongation of the QRS time is found. In the condition illustrated in Fig. 17 the underlying pathology has not yet been completely elucidated; diffuse degenerative changes and fibrosis in the sub-endocardial layers affecting the finer ramifications of the conduction system have been ob-

served, leading to the descriptive term "arborization block." Until additional evidence can be sifted, the designation of arborization block should be accepted with reserves. The fact remains that electrocardiograms of this type (low voltage and notched QRS groups) indicate serious and advanced myocardial damage, and in spite of apparently fair functional capacity, reduce life expectancy to a matter of months. Curves of this kind give the essential information in those cases that have "a little angina" and that go to an otherwise unexpected and rapid exitus.

**SUMMARY.**—Although it is not possible to condense the subject of electrocardiographic interpretation within so limited a space, a few principles may be summarized that will permit the recognition of the more common abnormalities.

I—Curves showing regular rhythm and slight deviation from the normal:

1—Preponderance (in the presence of gross enlargement).

*Left*, Fig. 5: High R in I and deep S in III; disproportionate left ventricular hypertrophy.

*Right*, Fig. 6: Deep S in I and high R in III; disproportionate right ventricular hypertrophy.

2—Delayed Conduction or Incipient Heart Block: when P-R interval measures more than five small time divisions or more than 0.20 sec.

II—Curves showing irregular rhythm:

1—Auricular Premature Contractions, Fig. 8; single premature beat initiated by a P-wave of abnormal form, without gross change in the ventricular complex.

2—Paroxysmal (Auricular) Tachycardia, Fig. 9; the heart is regular during the paroxysm but sharp variations from slow to fast rates occur. During the paroxysm the P-waves are of different form than during normal rhythm.

3—Auricular Fibrillation, Fig. 10; irregular spacing of R-waves and absence of P-waves.

4—Ventricular Premature Contractions, Figs. 11, 12, 13a and 16; side to side transmission shown by abnormal spreading beyond  $2\frac{1}{2}$  small divisions or 0.10 second, followed by a rounded wave of opposite direction; not preceded by a P-wave and occurring sporadically:

- a—Common type, Fig. 11; disturb the dominant rhythm and are followed by a compensatory pause.
  - b—Common type, occurring every second beat, Fig. 16, lead I; bigeminal rhythm.
  - c—Interpolated Ventricular Extrasystoles, Fig. 12; do not disturb the dominant rhythm and are not followed by a compensatory pause.
- III—Curves showing regular rhythm but marked deviation from the normal:
- 1—Bundle Branch Block, Fig. 13b, 14; side to side transmission shown by prolongation of QRS time, seen in all complexes, which are regular and follow rhythmic P-waves.
  - 2—Transitional Types of Intraventricular Block, Figs. 15, 16; bundle branch block with additional abnormalities: fluctuations in amplitude and notching.
  - 3—Arborization Block, so-called, Fig. 17; regular rhythm with wide QRS groups of low amplitude and notched.
- In general, if an electrocardiogram appears regular and normal, examine it more closely for preponderance and delayed conduction. If irregular, examine for premature contractions and auricular fibrillation. Myocardial disease may be indicated by the changes described in regular curves and also by irregularities: rarely by premature contractions and very commonly by auricular fibrillation.
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THE NORMAL SELLA TURCICA.—Enfield directs attention to the fact that the normal sella turcica shows remarkable variations under the Roentgen-ray. He bases his conclusions upon a series of 100 cases studied with a view of determining what can be accepted as standards of health. The author apologizes for the smallness of his series, but observes that the data appear to be sufficient to lead us to conclude that the sella turcica in the normal person may vary considerably in contour and size within very wide limits; that the average sella, which has usually been interpreted from x-ray findings as being the normal type, constitutes in the neighborhood of 50 per cent. of the general run of cases, and that wide variations from the average are not necessarily accompanied by any evidence of pituitary disease. He further feels that the only definitely and positively abnormal roentgenographic finding is clear evidence of erosion of the bony structure.—*Journal of the American Medical Association*, Sept. 16, 1922.

# A SURVEY OF ONE YEAR'S WORK IN THE DEPARTMENT OF OBSTETRICS, HAHNEMANN HOSPITAL, PHILADELPHIA

JOHN E. JAMES, JR., M.D., PHILADELPHIA

(Read before the Homœopathic Medical Society of Pennsylvania, Sept. 26, 1922.)

THE data submitted has been taken from a compilation made for the year 1921 by our Dr. Newlin F. Paxson, for presentation to the General Staff meeting of Hahnemann Hospital, and from a resume prepared by our Dr. Mutch from the records of the Social Service department, covering the period from September 1, 1920, to September 1, 1921. Not desiring to add to your tedium, I have prepared a scheme, a survey of which will give you a good idea of the major statistical facts, and, at the same time, grant me the opportunity of elaboration of the more instructive points of the report.

<i>Total number of Patients treated</i> .....	986
Adults .....	553
Babies .....	433
	<hr/>
	986

Total deliveries (all types) .....	433
Abortions .....	81
Miscarriage .....	8
Extra-Uterine pregnancy .....	5
Admitted for observation or medical treatment .....	26
	<hr/>

553

## *Maternal Mortality*

In 415 normal deliveries .....	none
Total deaths—all causes .....	8
Total Maternal mortality .....	1.4%

## *Foetal Mortality*

Only able to trace 401 out of the 433 cases.

Total deaths for all cases .....	36 or 8.8%
Total deaths in normal deliveries .....	26 or 6.8%
Total deaths excluding syphilitic and other premature still-births .....	5 or 1.3%
Excluding one case of congenital hypertrophic Pyloric Stenosis refusing operation ....	1.1%

	Mortality
<i>Abortion</i> —81 cases—3 deaths .....	3.7%
<i>Miscarriage</i> —8 cases—no deaths .....	0%
<i>Extra-uterine pregnancy</i> —5 cases—2 deaths .....	40%
<i>Eclampsia</i> —10 cases—no maternal deaths .....	0%
4 foetal deaths .....	40%
<i>Placenta Praevia</i> —6 cases.	
Maternal mortality—2 deaths .....	33%
Foetal mortality—4 deaths .....	66%
<i>Cesarean Section</i> —4 cases.	
Maternal mortality—1 death .....	25%
Foetal mortality—1 death .....	25%
<i>Destructive operations</i> —1 case.	
Maternal mortality .....	0.0%
Foetal mortality .....	100%
<i>Forceps deliveries</i> —13 cases.	
Maternal mortality—no deaths .....	0.0%
Foetal mortality —2 deaths.....	15.4%
<i>Internal Podalic Version and Extraction</i> —6 cases.	
Maternal mortality—3 deaths .....	33%
Foetal mortality—5 deaths .....	55%
<i>Rupture of Uterus</i> —2 cases.	
Maternal mortality—1 death .....	50%
Foetal mortality—2 deaths .....	100%
<i>Other cases</i> —inclusive of toxemias, etc.—no deaths..	0.0%

It is to be noted that out of the total of 433 labors, 415 are classified as normal or non-operative deliveries. Without analysing the types of pelvis in this series, I will state that over 80% of the pelvis showed some deviation from the normal standard. Our records thus presuppose routine and accurate pelvimetry.

Emphasis must be placed upon pelvimetry as an essential and indispensable basis of obstetrical practice. There can be no guess-work or haphazard procedure in this respect. Every case of pregnancy must be studied from the view-point of the parturient tract—bony pelvis and soft structures combined, and upon the result of physical findings must the determination rest as to the eventual character of labor. Clinical experience, as noted above, shows the majority of cases belong to the category of "Border-line cases"—those in whom some pelvic deviation from normal type is present; it likewise demon-

strates the positive fact that over 80% of these cases will result in normal delivery.

This truth more than emphasizes the absolute need for precision in ante-natal diagnosis of the pelvis, in order to differentiate those in whom normal delivery may be expected, and those in whom operative interference will be indicated. The time for "taking a chance" and awaiting the decision of nature at the time of labor, is long since passed. The one who persists in adhering to such an obsolete method will be held strictly accountable for the innumerable "accidents" of labor, which the modern practice of obstetrics has clearly demonstrated to be avoidable.

With the exception of strict emergency cases, every patient attended in our wards is subjected to a rigid examination in accordance with all the methods and principles presupposed by the term "Pelvimetry."

In this way, we can show such a large percentage of cases coming to non-operative delivery with no maternal mortality, and the lowest possible foetal mortality.

This is in direct contrast to the high mortality figures given where pelvimetry is held in less estimation, and most of the cases are routinely subjected to meddlesome operative interference of varied character.

Perhaps the most important puerperal complication occurring in the normal, or, more properly designated, the non-operative cases, was a hemolytic streptococcic uterine infection. This sequella, in a rather peculiar form, first appeared in our wards during the winter following the severe epidemic of influenza of 1918, and has reappeared each year despite all extraordinary methods of prevention, though in diminishing frequency and virulency. In this series of 553, there were four cases, all recovered. Each ran a typical course of excessive febrile disturbance of from five to seven days, initiated by a chill, appearing from the third day to two weeks after delivery, associated with some toxic manifestations, pain in lower abdomen, tenderness of uterus, and characteristically, without the usual overwhelming septic toxemia ordinarily expected in a streptococcic infection. In no case was there any morbid pathology discernible in the pelvis when the patients were discharged from the hospital. Positive uterine cultures, the height of temperature, and absence of constitutional symptoms formed the basis for diagnosis.



Perineal laceration occurred in 107 of all cases, delivered by the vaginal route. Estimated at about 25%, this offers a rather lower percentage of birth canal injuries than one would ordinarily expect. There is no particular degree of praise to be attached to such a record, however. The only manner in which full appraisal of the functional capacity of perineal support following childbirth can be made, is by estimation of the regenerated tone of the structures entering into the anatomical formation of the perineum after full and complete involutionary reconstruction has taken place. This latter requires at least a period of three months.

One of the prime duties of the obstetrician is to prevent perineal lacerations—an old maxim and a good one. Be it remembered, however, that, irrespective as to skill, success will be obtained in only a comparatively small number of cases. In consequence, therefore, it behooves us to emphasize as equally important the somewhat more modern teaching, namely; it becomes one of the firm obligations of the obstetrician to prevent the more “severe” types of perineal lacerations, and, in all cases, irrespective as to type or degree of tear, to suture the injury in such manner as to return the perineum to its normal, anatomical status. No one has the right to assume the responsibilities of a case in labor unless, among other requirements, he is skilled to the degree of doing absolutely correct repair work. It is a travesty upon modern medicine that so many years have elapsed in which the profession has closed its eyes and reasoning to the unskilled in obstetrical practice. In no other phase has the lack of ability been so demonstrated as in this of birth canal injuries. Fortunately, the laity has awakened to the fallacy of the time-worn excuses and ridiculous attempts at suturing, and, in such awakening, has aided in discouraging the charlatan in this field of medical practice.

Let me issue a warning concerning methods of “stretching,” or, to use a term heard more recently, “ironing out” of the perineum; practices originating with the idea of preventing lacerations. I feel sure there are some present who have had my experience in observing well-marked evidences of perineal relaxation appearing several months after delivery of cases in whom no lacerations occurred. I refer particularly to primigravida. Sequellae of this character occur dependent upon undue stretching of the perineal supportive structures—not-

ably, the levatorani muscle, with permanent loss of tone, or upon an actual rupture of the anterior or pubic attachments of the levator-ani muscle. In either case, the gross results are essentially the same; the net results vary, however, because of the practical impossibility of instituting surgical corrective procedures in the latter instance. My query is this. If such untoward results may be expected from the slow, gradual and natural stretching of the perineal tissues, sufficient merely to permit the passage of the fetus, how much more prone will they be after the quicker, artificial and excessive stretching of the so-called "ironing-out" procedure?

I propose to make a statement which, coming from a teacher of obstetrics, will be challenged. In the greater proportion of primipara, I much prefer to do an episiotomy, or have an average degree of perineal laceration, rather than to deliver without a "tear." The birth canal injury is thus converted into a bona fide surgical status, capable of repair with excellent immediate and remote results, provided the operative work is correctly performed in accordance with the pathological anatomy present, and the technique of modern obstetrical surgical procedure. My position in this regard serves again to emphasize the surgical basis of all deliveries and the requisite skill to be demanded of every one who will assume the obligation of obstetrical cases.

Acute pyelitis is a frequent obstetrical complication which, apparently, only in recent years has been properly emphasized in obstetrical literature. The exact number of cases in our wards during the period under consideration I could not obtain, owing to the lack of cross-indexing in the record room during this time. It is rare, however, not to have at least one or two instances of pyelitis continuously under treatment as a pre-natal or post-natal complication. From the mechanical viewpoint of pressure alone, it is logical to expect acute pyelitis as a common complication of pregnancy, and especially to predominate in frequency upon the right side. It is most practical to bear this fact in mind, that no confusion shall occur in the differential diagnosis of other acute right-sided abdominal lesions, and to avoid unnecessary and irrational operations. All of our pre-natal cases have recovered without any obstetrical surgical interference. As a puerperal finding, its frequency serves well to enforce a most painstaking, careful differentiation as to the cause of all febrile puerperal states before

meddlesome methods of therapy are instituted. It is a very wise and most talented obstetrician who will take the proper time to study and individualize each case of chill and fever in the puerperium, even though these appear upon the dreaded second or third day post-partum; and who will avoid all mechanical therapies directed to the intra-uterine cavity until he knows that such therapies are indicated. Perhaps the cause is an acute pyelitis, as it so frequently is according to our experience. Even though it be an instance of true infection of the puerperal uterus, time must be taken to differentiate fully and completely the type of such infection before any operative therapy is begun. It may be one of the so-called acute putrid types of uterine infection, or the staphylococcic type. In the majority of these cases, a carefully given and infrequent intra-uterine irrigation will be indicated, supplemented in a few instances by a careful digital curettage. We meet with most of this type in cases of criminal abortion. A thorough pelvic investigation must antedate such therapy to eliminate any acute adnexal inflammation. In the presence of the latter, all treatment directed to the intra-uterine cavity in the initial stage of the infection is positively and absolutely contra-indicated. On the other hand, it may be one of the so-called "acute septic" infections of the uterine cavity or the acute streptococcic infection, the virulent form of puerperal sepsis. It is to be hoped that every one practicing obstetrics has learned his lesson well as to the harm done by all intra-uterine mechanical therapies in cases of this type in the early stages. A simple intra-uterine irrigation oftentimes gives rise to a quick and overwhelming septicemia, or to use a better nomenclature, acute bacteremia.

Routine bacteriological examination of the catheterized urine in all our cases of pyelitis showed the B Coli to be the predominating organism.

Our foetal mortality corresponds accurately with that of other large obstetrical clinics, showing 1.3% for cases delivered normally, excluding syphilitic and other still-births. Records of the pre-natal clinic, for the year of Sept. 1st, 1920 to Sept. 1st, 1921, show 43.1% of the foetal mortality rate directly traceable to syphilis. Likewise, during the same period, out of 463 routine Wassermann tests, 104 were positive.

Data of this character strongly emphasize the need and importance of the recognition and treatment of what I am

pleased to call "obstetrical syphilis." It is well to remember, from the obstetrical viewpoint, we are compelled to recognize "hereditary syphilis" and "syphilitic heredity." The former needs no comment, it is so universal and frequent. The latter embraces those cases wherein the active manifestations of the infection have been in abeyance or entirely absent for a long period of time, and the child born alive and at term, shows no clinical or laboratory evidence of the parental infection, and yet, sooner or later, will present certain dystrophies traceable to the disease. Thus, it becomes a potent truth that the time to treat obstetrical syphilis, is long before the individual becomes an obstetrical case.

By way of recognition, routine Wassermann tests—repeated—must be an imperative procedure in every obstetrical clinic. This is a paramount function of the pre-natal clinic. This function cannot be accurately performed without the co-operation of an active and efficient Social Service department. Thus, no obstetrical clinic can or may be conducted without having a pre-natal clinic and a social service department as integral parts.

All cases showing positive Wassermanns, except those but faintly so, must be subjected immediately to a thorough ante-syphilitic regime. The treatment in vogue in our clinic, instituted through the co-operation of the laboratory under Dr. Sappington, is the following:

1. Four to six intravenous doses, once a week, of salvarsan .4 to .55 gm. Patients are then instructed to return at intervals of two to three weeks for,
2. Mercurial treatment, consisting of three-fifths to 1 grain of yellow iodide of mercury, given by mouth in tablets of lx. No mercurial treatment is given during the weekly salvarsan injections, but two weeks after the last salvarsan injection, the patient begins a six weeks' to two months' course of mercury. This is usually followed by:
  3. Iodide of potash for ten days to two weeks.
  4. A rest period of a month, and then
  5. A Wassermann test. If positive, the above course is to be repeated.

In all cases presenting positive Wassermanns just prior to delivery, blood is taken from the umbilical cord before tying. In the presence of positive reactions, the new-born child receives treatment by the inunctions of official mercury oint-

ment. Finally, all syphilitic cases are followed up through the post-natal clinics. Only through such routine and intensive regime, I feel, can obstetrical syphilis be placed under curative control. When all institutions, accepting maternity cases, insist upon the necessity of having the co-operation of those active agencies essential for the regime, then, I am convinced, the foetal mortality due to syphilitic infection will be greatly reduced.

I would call attention to the fact there were ten cases of eclampsia with no maternal deaths. Of these, six cases were ante-partum or intra-partum, and four post-partum. It is hardly fair, however, to make a claim for too much self-praise upon this record, inasmuch as every one, who has any institutional experience, knows how markedly do the results in treating eclamptic cases vary from year to year. I do know our results in recent years have decidedly improved through the alertness of our pre-natal work, and by the immediate hospitalization of all cases showing any manifestations of the pre-eclamptic stage.

Our knowledge as to the basis of the toxæmias of pregnancies must still be said to be indefinite. A toxemia, it is conceded, dependent upon or intimately associated with a disturbance in metabolism, eventuating in or concomitant with a functional and, oftentimes, an organic hepatic lesion, in which we believe, some vicious endocrinous influence is present, and resulting in mild or severe pathological changes throughout the entire body, but most notably in kidneys and cerebro-spinal meninges, is the under-lying factor. It is to be hoped that continual studies in physiological chemistry may aid in finally detecting that particular type of toxic body at fault.

The treatment of eclampsia offers a more definite consideration, there appearing in recent years, a tendency to a wider acceptance of two basic principles. These are, in their order of value:

1. The use of sedatives and the institution of all recognized methods of heroic elimination.
2. Delivery of the case.

Most clinicians consider the first item is the paramount obligation in the therapy. I am convinced that the best results are obtained where time is taken to morphinize and to promote active elimination by skin, bowel and kidney, rather than to immediately subject the patient to operative interference. In

the light of personal experience, I cannot subscribe to the doctrine of absolute conservatism—in other words, awaiting the time for delivery until the patient is “in extremis.” In all cases of true eclampsia, the uterus should be emptied, but this should not be done until some response has been obtained by the eliminative measures.

I want to emphasize the positive value of “forced water” as an essential adjunct to elimination, in conjunction with the “sweating” and other measures used. The so-called “dry method” of treatment for nephritic disturbances other than in pregnancy, is practically unsuccessful.

The combined statistics of our operative cases agree with the average of other clinics. I desire to call your very especial attention to the fact that all our operations were done upon the basis of positive indications acceptable in all reputable obstetrical clinics. In other words, our Department adheres to and practices in accordance with the principles of obstetrics, rather than fads and vagaries. Two Cesarean sections were done for contracted pelvis; one for sacculation of uterus due to a ventral fixation operation; one for premature separation of placenta, associated with a contracted pelvis. The one death which occurred was in a foreign patient, who, under the influence of some “home brew,” surreptitiously brought to her by a visiting relative, got out of bed the day following operation, with resulting opening of wound.

The two cases of rupture of uterus are interesting and instructive. The first case was one upon whom three previous Cesarean sections had been performed. Rupture occurred, spontaneously, at the sixth month of present pregnancy. At the time of our operation, sterilization by the resection of the intra-mural portion of each tube was done. Patient recovered. I am convinced that sterilization should always be done at the time of a second Cesarean section in a case of absolute pelvic obstruction.

The second case was one to whom repeated doses of pituitrin had been administered before admittance to hospital. When admitted, there was a true uterine tetany and a transverse position of fetus. Rupture took place shortly after being admitted; the extent of rupture necessitated hysterectomy. The patient died. This case serves to emphasize one positive obstetrical dictum, namely, “never use an oxytocic until the uterus is empty.” The toll of accidents from the use of

pituitrin, ante-partum and intra-partum, has been tremendous. This has been largely due to its indiscriminate use; its use in the hands of practitioners unskilled in obstetrical diagnoses and the correct interpretation of birth-canal conditions during the different stages of labor. Pituitrin, obstetricians agree, may be used in an occasional selected case, but only by the one who is trained in the use of all of the refined methods of obstetrical diagnosis and who is thus capable of eliminating all possible and probable forms and phases of dystocia. Likewise, the "divided" dosage of the drug is insisted upon. I am a dissenter from the position as to the use of pituitrin even under such requisite provisos, being convinced it is a harmful drug to use before complete evacuation of the contents of the uterus.

Forceps application and internal podalic version were done only upon indications. Our statistics show an average maternal and foetal mortality rate for these operations, in conjunction with the associated condition indicating operative interference. Under internal podalic version, for example, two maternal deaths occurred in cases of placenta praevia, and one, a transverse posture associated with rupture of uterus.

It is timely the medical profession takes note of the fact as to the present status of obstetrical operative procedures. Obstetrics is, to-day, rated a major subject in all medical colleges. No hospital can measure up to the requirements for standardization unless it has a "Department of Obstetrics," not simply a "Maternity ward." The one who practices obstetrics, or who would instruct in obstetrics, must be a surgeon,—basically, an abdominal and pelvic surgeon—with special and intensive training in all those additional refinements appertaining to obstetrical surgery. Forceps application and the performance of internal podalic version and extraction, are major surgery in obstetrics, and as such, should be performed only by those who have had the requisite and sufficiently intensive training in this field. It is just as reprehensible and criminal for a practitioner to do an extraction by forceps or version without such basic training as to do an abdominal section without preliminary clinical instruction. As a teacher of obstetrics, I feel we attempt to give too much instruction to students in forceps application and version, causing the graduate to look upon these operations more or less tritely and easily performed. It is not a far cry to the time when our teaching

to the undergraduate will be limited to obstetrical diagnosis, ante-natal care, normal delivery, and the pathology which has a medical or non-operative aspect. The time that is allotted is insufficient even to secure thoroughness in these phases of the subject. Operative obstetrics will then be taught as a strictly post-graduate subject with clinical facilities to train the student in the fundamental principles of obstetrical surgery. In this manner will there be an increasing number of accredited obstetricians, and labor cases will become hospital cases just as routinely as all general surgical cases are to-day.

To offset the usual criticism as to available hospital facilities for obstetrical patients, I quote the following from Dr. Anna E. Rude, Director, Division of Hygiene, U. S. Children's Bureau, Washington, D. C. (*J. A. M. A.*, Vol. 79, No. 12, page 962):

"For the year 1920, 2575 hospitals reported 323,175 confinements. If one computes hospital capacity for confinements on the basis of twenty-six patients to one bed each year, allowing two weeks' hospital stay for each patient, the number of possible confinements in hospitals in the United States was 712,530. This is more than twice the number of confinements which actually took place in the hospitals reporting."

A survey of the data submitted clearly attests to the intrinsic obstetrical efficiency of my associates in the Department of Obstetrics at Hahnemann College and Hospital, especially, when it is remembered that all of our cases are subjected to practical student instruction.

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### MINIMUM HEALTH STANDARDS IN SCHOOLS

MARGARET HASSLER, M.D., READING, PA.

(Read before the Homœopathic Medical Society of Pennsylvania, Sept. 26, 1922.)

Undoubtedly many of the troubles that affect one in later life have their start at the school age, and it is quite probable that some of these troubles are the result of insanitary conditions at our public schools. We require by state law that children attend school. Is it not, therefore, wrong to neglect to furnish them at school with good air, adequate heat and light, good water supply, sanitary toilet facilities, comfortable



seats and desks, and general cleanly and sanitary surroundings? A sanitary school will not only protect the health of the school children but it should serve as a model in sanitation for the guidance of the entire community in which the school is located. A school should be pleasing and attractive in appearance, in furnishings, so that the community as a whole may be proud of it and so that pupils will take an interest in the school and will endeavor to carry out at home their knowledge of sanitary conditions gained both from teachings and observations at the school.

It may be stated without fear of contradiction that ventilation is the most important factor in relation to the health of workers. Defects of ventilation are the most important single cause of disease in industry. It is commonly understood that ventilation implies the furnishing of an adequate supply of fresh air to a given room. Natural ventilation through windows or skylights is by far the best. If ventilation is obtained through natural means, that is, by an adequate supply of windows or skylights, it obviously implies that lighting will at the same time also be improved. When, because weather conditions are unfavorable, or structural arrangements are old or defective, or when for a variety of other reasons, it is inadvisable to depend upon natural ventilation, one must reinforce or replace it by resort to artificial methods of ventilation which depend upon fans to propel air into a room as well as to exhaust or remove contaminated air. Frequently, artificial ventilating devices, even though they may have been installed at very great expense and considerable trouble, have been found to be defective and impracticable in operation. Even if a mechanical system of ventilating is found necessary, it does not justify failure to open windows at all times when the weather conditions permit. The latter statement is in direct conflict with the views which have heretofore been held and enforced with reference to this subject, and as the result of which no one has been permitted to open windows while ventilating devices were in operation. A minimum of four hundred cubic feet of air space per person should be insisted upon; six hundred cubic feet per person is the optimum. While it is our business to urge and compel children who cough or sneeze to cover up their mouths and noses with their handkerchiefs, we must nevertheless provide an adequate amount of space for each child in the classroom, so that it will be out of range of the

discharges from a sneezing or coughing neighbor; this is a necessary measure of protection against contact infection. For this purpose, a minimum of twenty square feet of floor space is necessary for each child in a class room. For the purpose of adequate ventilation, rooms should be required to have a sufficient amount of window space so as to allow twenty-one square feet of window area for every occupant of the room; such windows, however, should open directly to outdoors. When the area of the window space for each occupant averages less than twenty-one square feet in a given room, it calls for the installation of a mechanical method of ventilation. When a mechanical method of ventilation is necessary, the minimum amount of air space should be not less than six hundred cubic feet of air per person per hour. To be satisfied merely with the placing of a flag in front of each ventilator and to accept its fluttering as an indication that all is well, as has been the custom in many schools, is to place reliance on a very poor index of efficiency. Children who are seated near the windows in a room where natural ventilation is depended upon, should be guarded by a deflector—an inclined glass or wooden shield placed across the lower end of such windows, to deflect air currents entering such room upward so that they will not strike such children. In a similar fashion, children who are seated near radiators or other heating devices may suffer from the effects of excessive heat. Such radiators should be properly insulated by non-conducting material (asbestos, etc.) and the heated air should be deflected upward, or better still, the radiators or heating units should be so distributed as to be at a distance from children's seats. In a study made by Dr. Josephine Baker, director of the Bureau of Child Hygiene, New York City, it was shown that in the closed-window room which was ventilated mechanically and kept at a temperature of about 58 degrees F. the rate of absences as the result of respiratory disease was 32 per cent. greater than in the open-window rooms which were naturally ventilated and kept at the same temperature. The best conditions of health with respect to the prevalence of respiratory diseases is found to obtain in the open-window classes. For the average room, a temperature of 68 degrees F. is most desirable from the standpoint of health.

Regarding the lighting system, there can be little doubt that a defective system may not only react to make teachers

and pupils irritable, restless, and fatigued, but that it may be responsible for the backwardness of many pupils. It can be stated definitely that where natural or artificial lighting is used, the writing surfaces, whether blackboards or desks, should be neither too brilliantly lighted so as to reflect glares, nor should there be marked shadows upon them. When artificial lights are employed, care must be taken that they should not flicker. Adequate natural lighting like natural ventilation, is the best. However, we must be careful to prevent the glare of sunshine. In such cases, window shades, especially those which can be raised from below upward, are essential. Windows must be kept clean or they will prevent the entrance of an adequate amount of light even though the total area of window space is sufficient. When artificial lights are employed, they must be properly distributed so as to give light to all parts of the room; they must be of adequate candle power, and the glare from such lights which may fall upon polished desk-tops or other polished surfaces must be eliminated so far as possible by the use of dull paints and by the proper shielding or shading of the light.

Drinking water ought to be readily accessible on the various floors of school buildings, so that pupils and teachers may not have to lose time in going a considerable distance to slake their thirst. The placing of drinking fountains in sufficient number so as to be readily accessible, is the best means of eliminating the use of the common cup which is always present where the ordinary faucet is used to control the flow of water. The only proper type of drinking fountain is one which delivers an inclined column of water rising to a height of several inches, the inclination being about 15 degrees, so that any germs which may be caught in such a column of water are not kept dancing at the top, as is the case with the vertical water spout, but fall over into the drain promptly.

Toilets should be readily accessible. A great deal of unnecessary loss of time results when toilets are housed in a single unit at a considerable distance from the class room or offices. Moreover, constipation which is of such frequent occurrence among all pupils, and among teachers whose life is a sedentary one, is encouraged when the toilets are at a considerable distance. This is the common experience with large groups of people in industry and undoubtedly applies to the school population. There should be a sufficient number of toilets for the

school population; they should be so constructed that the ventilation, lighting and heating conform to the standards already laid down; they should insure privacy, for it has generally been found that where there is no privacy, there is a tendency toward demoralization through the force of bad example and through the operation of perverted or "crowd" psychology. The windows and doors of the toilets should be particularly shielded during the spring and summer time by the use of screens to prevent the entrance of flies. Washing facilities in the toilets should be adequate. The supply of washing facilities, and the installation of hot water regulated so as to be of proper temperature, are extremely important from the standpoint of health to the individual pupil or teacher, and to those with whom they may come in contact. The supply of soap and towels in suitable quantity is also extremely important. Measures have been devised which permit one to provide these upon an economical and practical basis.

Reference has already been made to the economy which results from keeping windows and lighting fixtures clean. The general cleanliness of floors and all furniture hardly needs to be alluded to in the light of modern knowledge. It is important that dry dusting and dry sweeping be eliminated from all schools, no matter at what hour performed, but especially before the opening of school or at any time during the school day. Dry dusting and sweeping tends only to scatter dust and is not effective for its collection and disposal. Mopping of the floors with oil-cloths or with damp cloths or so-called "settlers," like oil particles or wet sawdust, is essential and this should be done when the school has been completely emptied of pupils and teachers. In this connection reference should be made to the chalk dust which is set free in classrooms or which results from the cleaning of erasers. This should be prevented so far as possible by the use of moist cloths for erasing chalk marks. While this may involve loss of time, it is, however, profitable in the long run. Pupils should never be asked to clean blackboard erasers.

Much could be said about the value of an adequate and proper diet, faulty habits of eating, as well as the use and abuse of exercise, the need for rest periods, the value of adequate sleep, the avoidance of exposure to excessive heat and cold at various seasons of the year, and the relation of proper methods of dressing to such conditions. Attention to these

details is required in the school, as well as outside the school. The health aspect of recreation is directly related to personal health and might be profitably dwelt upon.

The *why* of school hygiene needs hardly be argued. The *how* is open to much investigation. The chief difficulty, however, is with old equipment which has been "good enough" in the past. Too many schools are still dingy, dirty, unsanitary, and appropriations for maintenance and renewal are far below the actual need. When will the public come to a realization of the physical needs of the public schools?

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### THE A. B. C's OF LIFE

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(Read before the Homœopathic Medical Society of Pennsylvania, Sept. 26, 1922.)

EVERY one will agree that life considered from any standpoint is complex. No discussion from the economic standpoint is necessary. The man who must live on ten dollars per week has problems just the same as you who earn a thousand dollars. In fact the man with only ten dollars has a simpler problem than you who must meet a thousand ridiculous conventions. Our life has become so complex that many with large incomes meet the demand by mortgaging the incomes of their grandchildren.

I wish to consider the A. B. C's of Life from the fundamental standpoint; namely that of its Chemistry. This is more nearly a definite proposition.

If we let A stand for Air, B for Water and C all the rest we have a rather equitable division of the importance of the necessary elements. 999 people out of every thousand are too lazy to breathe and even compressed air is advertised free at your garage. There are many kinds of air but all may be placed in one of three classes. Good, Bad and Indifferent. Good air is still available, in most locations, but modern civilization has devised all sorts of devices to make it bad such as the hot air furnace, gas lights, tight windows, auto exhausts and smoke. Dr. Harvey Wiley says that the gaseous material in Pullman cars he has never been able to identify but certainly

it is not air. Just as soon as the traveling public demands it some one will plan a proper supply of air in Pullman cars which is as pure as the pristine air without.

Eminent authorities agree that the failure to fill the lungs with pure air is largely responsible for tuberculous and other diseases. Most people only use a small amount of their lung tissue, which permits most of it to deteriorate from lack of use.

Pure water is more difficult to obtain than pure air and as civilization becomes more and more congested this problem is more and more difficult.

The City of New York has been compelled to go many miles to the mountains for an adequate supply. Atlantic City piped her water supply across the barren meadows and dear old Philadelphia attempts to purify the contaminated Delaware.

Contaminated water is responsible for much of the typhoid fever, dysentery, gastric and intestinal disturbances. Even with the present congestion of our civilization it should be practically possible for every community to have a good water supply.

C may stand for Cabbage or the educated variety Cauliflower or crabs, or cranberries or custard or cow or even crow but this division consists essentially of mineral matter, fats, carbohydrates, proteins and vitamins.

The modern conception of nutrition is approaching a definite science and McCollum even goes so far as to state that he can tell the character of a nation by its food supply. In the years gone by before Missouri was discovered men of science simply made statements which were arbitrarily accepted for generations. Aristotle stated that a vessel filled with sand would hold as much water as the same vessel when empty and no one had the sand or the inclination to confirm or deny the statement. Now modern science demands to be shown and absolute proof of every statement is required.

Many things can now be demonstrated absolutely by laboratory and practical experiments.

For many years every one believed the statement of a German that the unit of life was the cell and from this idea sprang the old pathological viewpoint which attempted to explain everything from the physical appearance of the cellular tissue. Later the "Bugologists" preached that all disease was bacterial in origin.

Back of all physical malformations of the cell both animal and vegetable the realm of chemistry lies and with it physics and physical chemistry.

Be as it may it is certain that Vaughan's chemical conception of the unit of life is more certain than any previously advanced. Some knowledge of the chemistry of proteins is absolutely necessary in order to understand this viewpoint.

Briefly, the protein molecule is a labile chemical union of several amino acids. Each amino acid has both acid and basic chemical groups and it is easy to realize that several hundred amino acids may be chemically united into one large chemical molecule.

Vaughan showed that every protein molecule contained the same chemical nucleus and that one protein differed from the other only by virtue of its characteristic side chain chemical groups.

You have all seen individuals who were hypersensitive to a particular protein. A logical chemical explanation may be made for this fact by realizing that the side chains of the protein to which the individual is hypersensitive are rapidly split away leaving the toxic nucleus common to all proteins.

Individuals that are hypersensitive to egg albumin simply have the power to rapidly strip away from the egg albumin its characteristic side chains leaving the toxic nucleus of the protein free to exert its toxic properties.

The desperately ill typhoid patient may have fewer microorganisms than others only slightly ill and a logical explanation is that the patient more rapidly splits the side chains from the foreign typhoid protein and releases large quantities of the toxic group.

Many other practical illustrations may be seen in hypersensitiveness to various proteins probably responsible for "Hay Fever." If the protein responsible for the condition is identified by sub-dermal tests and the patient is made capable of splitting the responsible protein part the toxic nucleus stage further attacks are either eliminated or lessened in supply. Similar explanation of diphtheria may be made. It is interesting to note that the toxic nucleus from all proteins is either very similar or identical.

In discussing the A, B, C's of life from the chemical viewpoint more regard for the wonders of the human body is realized. Certain it is that the human body is a chemical

laboratory where the vital processes are a thousand times more intricate and better balanced than the most accurate watch.

The real point in this discussion is to give you an idea of the wonders of the chemistry of the human body so that you may realize better that heroic doses of medicine are certainly not required to change the most alarming clinical picture.

Samuel Hahnemann's conception of Homœopathy is in perfect accord with modern science. Had the sixth edition of his *Organon* not been preceded by one hundred years of unscientific ridicule it would now be generally accepted as a scientific basis for future development. Dr. Charles Mayo is man enough to acknowledge that Hahnemann was 80 years ahead of his time and other prominent leaders have done likewise.

It is known that only slight variations in the composition of glandular secretions are often responsible for gross changes in the body and that only infinitesimal quantities of the active principles of the suprarenal and pituitary glands required. If infinitesimal quantities of these substances produce such effects why is it not reasonable to expect variations with aconite, veratrum, nux vomica, etc., all of which contain powerful constituents.

Vitamines also are absolutely necessary, yet the actual amounts of the vitamins actually needed is quite small.

In conclusion—let me state that the A, B, C's of Life reduced to its fundamental chemical conception involves principles in perfect accord with the teachings of Samuel Hahnemann.

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## ROENTGENOLOGY IN NEPHROPATHIES

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(Read before the Homœopathic Medical Society of the State of Pennsylvania, September 26, 1922.)

SINCE the symptoms referring to the pathology of the urological tract are not pathognomonic of the etiology, other means of diagnosis are necessary. The diagnosis of a nephropathy cannot be complete without a roentgenographic examination. The kidneys being solid organs and denser than the surrounding structures, are relatively radiopaque, so that their shadows are clearly projected by the Roentgen-ray. In the Roentgenogram, the contour of the kidney, its size, posi-



tion, the homogeneousness of the density of its shadow and the presence or absence of calcareous bodies, are determined.

An important consideration in the examination of the kidney is the preparation of the patient. A vegetable cathartic is given twelve to eighteen hours before the examination. Castor oil is preferred and one and one-half to two ounces are administered three or four hours after a light supper. The following morning, breakfast is omitted and three soap and water enemas, one quart each, are given. While giving the enema, the patient lies upon the left side, and a soft rubber rectal tube is introduced two or three inches into the rectum. After the quart of soapy water flows into the colon, the tube is removed and the patient turns upon the back, remaining there for two minutes; then upon the right side for two minutes; and upon the abdomen for two minutes; after which the enema is expelled. The enemas are repeated at ten minute intervals. It is well to time the enemas, so that the last one is expelled about an hour before the Roentgen examination.

The important part of the technic is fixation which also makes pressure and expels the remaining gas in the colon from the area to be examined. Holding of the breath is also necessary as there is an excursion of the kidney with the diaphragm which varies from a half an inch to two inches, and such movement will obscure the shadow of a small calculus.

A 14x17 plate is exposed under a Potter-Bucky diaphragm which will give a nephrogram showing the whole urinary tract. Then the region of each kidney, the ureters and the urinary bladder are projected upon 8x10 plates. This regional study gives more accurate outlines of the shadows. If it becomes necessary to study the lumen of the urinary tract, a urogram is made of the necessary portions to complete the diagnosis.

The most frequent request for Roentgenographic examination is for the purpose of determining the presence or absence of calcareous bodies. There is a group of symptoms described as Dietl's crisis which is supposed to be pathognomonic of a calcareous body passing through the ureter. Modification of this group of symptoms may occur when a stone lodges temporarily at the pelvo-ureteral junction or because of any temporary obstruction along the course of the ureter. Morris states that pain is present in about 70 per cent. of cases of nephrolithiasis. Eastmond, in reporting a series of eighty

cases with sufficient pain along the course of the urinary tract to require a Roentgenographic examination, states that only twenty-three showed positive evidence of stone by Roentgenography and that only eight of the twenty-three had Dietl's crisis. Of fifty-seven of the cases showing no stone, forty-four gave a history of Dietl's crisis, and thirty of these had either pus or blood in the urine. O'Neil, of the Massachusetts General Hospital, in reporting a series of two hundred and seventy-three cases, found discrepancies in a large number of the series, between the symptoms and the final diagnosis of stone. In reference to pus and blood being present in the urine, Morris found pyuria in about 50 per cent. of the cases, and Cabot found negative urine in twenty out of one hundred and fifty cases. Caldwell reports a series of forty-nine cases which were operated upon, or passed the stones, without either pus or blood being recorded in the urine.

Therefore, it seems that the symptoms depend upon the location and character of the stone and may be present from any cause which temporarily obstructs the flow of the urine.

Roentgenography is the most accurate means of determining the presence of stones in the urinary tract. Leonard, one of the pioneers in the field of Roentgenography, claims only 3 per cent. of errors with the technic used in those early days of the science. Caldwell reports less than 3 per cent. of errors. Neurologists report errors varying from 2 to 20 per cent. upon the Roentgen-ray diagnosis submitted to them. It would seem that with our present technic a greater number of stones should be visualized.

These figures include ureteral calculi which are sufficiently small to be passed by the pressure of the urine behind them. It is possible by proper fixation, to show many of these small pieces of gravel. However, the pulsation of the aorta may transmit motion enough to these small particles to blur the outline of their shadows, so that speed is also an important factor in the exposure. Furthermore, these small stones may be of the radioparent group such as the pure uric acid stone, or other of the organic group such as xanthin or cystin. The repeated exposures of various densities necessary to demonstrate the presence of these small particles may be of scientific interest, but they can be of no real clinical value since these stones are small enough to pass through the ureter by the pressure of the urine.

However, calculi must be visualized when they become fixed in the ureter and require the aid of dilatation through the cystoscope for their removal. The presence of stones, even of the radioparent group which are too large to pass through the ureter or have become lodged in a diverticulum from the ureter, requiring either nephrotomy or ureterotomy for their removal, must be visualized.

The density of the shadows of stones depends largely upon their chemical compositions, the uric acid and other organic compositions, as named above, being the least radiable.

The urate group vary in their radiability according to the basic metallic group of salts which fuse and form the calculus. The ammonium radical is the least radiable. Sodium is more radiable, while calcium and potassium are the most radiable. This may be easily understood as we know radiopacity depends upon the density of the structures, and the atomic weight of these metallic basic groupings, increases in the order named.

The oxylate stones are rendered opaque by their large calcium content, and from their irregular surface are known as mulberry stones.

The phosphate stones appear principally in two groups. The calcium one is extremely dense to the X-ray, but is often of a gelatinous nature and must be curetted or scooped away. The ammonio-magnesium phosphate or triple phosphate which is most frequently found in the urinary bladder, but may be found in the kidney pelvis as a dendriform calculus, is radiopaque.

The carbonate stones are combined with calcium, magnesium or both, and these appear in masses of homogenous density.

When a radiopacity appears of sufficient density to suggest nephrolithiasis, localization becomes necessary, and may be accomplished by one of three methods, which are: projection, respiratory excursion or urography.

The procedure used for projection consists in directing the ray from different angles; when the calcareous body is outside of the kidney the shadows will be separated.

The respiratory technic consists in making a double exposure on the plate; one while the patient holds the breath during forced inspiration, and another after expiration. If the calcareous body is within the kidney, it will have the same excursion during respiration as the kidney.

The method by urography consists in injecting opaque fluids through the cystoscope into the pelvis of the kidney. This procedure not only determines whether the stone is within the kidney, but has the advantage of localizing the part of the pelvis it occupies.

To establish a diagnosis in the case of urethral stone, the introduction of an opaque catheter is essential.

Bier reports a large number of cases with calculi in the urinary bladder which were not visualized in the Roentgenogram, but were found cystoscopically. His explanation of the fact was that these stones consisted of pure uric acid. In our clinic, we have not failed to show any stones in the urinary bladder which were observed cystoscopically. This may be due, however, to a different chemical composition of the calculi. In those patients in which it is impossible to cystoscope the urinary bladder, injection of air or of sodium iodide of 12 per cent. solution and making two cystograms, one during the distention and one after the bladder is emptied, will be of value in localizing radioparent calculi or neoplasms. The cystogram is most valuable to visualize cystic diverticuli which are often overlooked during cystoscopy.

There are many sources of error in interpreting the radiopacities appearing throughout the urinary tract. Cole has mentioned eighteen of them, some of which are phleboliths, calcareous deposits in the walls of arteries, calcified lymph-nodes, calcareous degenerations in tuberculous areas of the kidney, skin moles with calcareous centers, calcareous degenerations in carcinomatous masses, foreign bodies in the feces, enteroliths, sacculations between gas bubbles in intestines, gall stones, extosis from the transverse processes from the lumbar vertebrae, residues from the bismuth meal in diverticuli, dressings with ointments of opaque material, Murphy buttons, Bland mass pills which have not disintegrated, undissolved capsules containing salol compound and artefacts in the plates.

Considering all the possibilities of error in interpretation, keen discernment is necessary to make a positive diagnosis of nephrolithiasis. In the absence of localized radiopacities through the shadow of a kidney of homogenous density, a conservative negative diagnosis may be given and the statement made that there is no shadow of a calculus sufficiently large which will not pass through the ureters.

Much information is available from a Roentgenogram as

to nephropathy other than of lithogenic etiology. Comparing the kidneys, they should be equal in size. From experience and by the use of a definite technic in making Roentgen examinations, when the kidneys are unequal in size, it is possible to say whether one kidney is large or the other is small. If a kidney is found to be large, it is necessary to state whether it is due to hypernephroma, hydronephrosis or pyonephrosis, cystic or polycystic kidney or some form of nephritis. This can only be stated definitely by pyleography. Kidneys may be small from nephritis. If they contain calcareous smudges and show destruction of the cortex, they are tubercular.

Urography includes the cystogram, ureterogram and the pyelogram. Voelcher and Von Lindenburg were the first to introduce colloidal silver preparations for urography. It was soon apparent that there is danger of silver precipitating from these aqueous solutions and clogging the tubules in the parenchyma of the kidney causing nephritis. Looking for substitutes for colloidal silver, Burns found a radiopaque preparation of thorium but the radiopacity was so variable that it did not come into general use. Cameron discovered the radiopacities of the iodides and Weld introduced the bromides, these being solutions which may be used with relative safety. In our clinic, sodium iodide in a 17 per cent. solution is preferred for the pyelogram and ureterogram, and 12 per cent. for the cystogram.

In hydronephrosis, the outline of the pelvis and of the major calices, and in extreme cases, of the minor calices, are distended. The ureter is also often distended above the obstruction. In pyonephrosis, the fluid extends into the parenchyma of the kidney, showing a breaking down due to bacterial infection. In cystic or polycystic kidney there are areas of radioluscencies showing through the shadow of the kidney, and when the radiopaque fluid is introduced into the kidney, it fills the cystic spaces. Hypernephroma, arising from the perinephric structure, will not alter the picture of the pelvis and calices, but when the tumor is of the kidney structure, it will be recognized by contractions and distortions of the major and minor calices.

Perirenal abscesses may be detected by a blurring of the outline of the kidney shadow, but this must be associated with clinical findings, as the same condition may appear from the destruction of cortex, due to pyonephrosis or from an ex-

cursion of the diaphragm during the exposure of the normal kidney. Pancoast has noted a fluoroscopic sign which was present in several cases of perirenal abscess. This is a wave of fluid over the upper pole of the kidney when the patient is quickly moved from side to side while in the erect position.

The pneumoperitoneum offers a means to differentiate between the nephritic and the extranephritic neoplasms. Van Zwaluwenburg has done much research work in making these differentiations and by this means it is possible to state whether a tumor is within the abdominal cavity or situated post-peritoneally.

There is one other procedure in the examination of the kidneys, which was first suggested by Carelli and Sordelli, of Argentine Republic. That is the introduction of carbon dioxide into the perirenal fat. This procedure is hardly necessary to study the outline of the kidney, but it is the only means by which it is possible to orientate the suprarenal bodies.

**CONCLUSIONS.**—The success of the examination depends upon the proper preparation of the patient and the correct technic in making the projection of the shadows.

Because all calcareous bodies may not be observed in the large plate showing the whole urinary tract, it is necessary to make a regional examination.

To determine whether shadows of calculi are outside of the lumen of the urological tract, localization becomes necessary.

In some cases, because of the difficulty in finding a renal calculus at operation for its removal, to show in what part of the renal pelvis the stone is located, pyelography is of value.

In cases of pyelitis, the pyelogram will indicate to what extent the infection involves the parenchyma of the kidney.

In urological diseases, because of the lack of uniformity between the symptoms and the pathology, all cases should be examined by the X-rays.

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NOTE ON THE DIAGNOSIS OF SHADOWLESS RENAL CALCULI: WITH ESPECIAL REFERENCE TO THOSE OF CYSTIN COMPOSITION.—Graves shows that by the injection of an opaque solution into the ureter and renal pelvis, stones not visible by x-rays may also sometimes be shown by contrasting light areas.

This observation was evident in a case described, the following method being used; a pyelogram was made upon the right side. There was not the slightest evidence of dilatation of the renal pelvis; the calyces were slender and cuffed. In the center of the main collecting portion of the pelvis, however, where the depth of the fluid should be greatest and the shadow therefore densest, closer scrutiny found an oval area of definitely decreased density. Cystoscopy was done several days later. A waxed-tipped catheter was passed along the right ureter and a second right pyelogram was made. The plate was an exact duplicate of the first one. The wax showed linear scratches, unmistakably of calculous origin. The two pyelograms were thought to denote the presence of a shadowless calculus within the pelvis of the right kidney, through displacement of the denser opaque solution. Right pyelotomy revealed a calculus, the composition of which was pure cystin.

A second case is described in which a stone in the ureter casting no x-ray shadow was demonstrated by injection of an "opaque" solution (ureterogra), as an oval vacuole of decreased density. Above it the ureter was dilated. The stone was passed after the patient left the hospital.

Graves states that, contrary to the general opinion, calculi of pure cystin should be classified in general with those concretions which possess no greater density than the body soft parts.—*Annals of Surgery*, April, 1922.

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EFFECT OF MERCURIO CHLORIDE ON THE KIDNEYS.—Intravenous injections of mercuric chloride made by Menten in amounts as low as 0.00002 grm. per kilogram of weight, caused microscopic pathologic changes on kidneys and liver of the rabbit. These lesions are well defined five minutes subsequent to the termination of the injection.—*Journal of Medical Research*, No. 43, 1922.

## EDITORIAL

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### THE EASTERN HOMŒOPATHIC MEDICAL ASSOCIATION

THE First Annual Convention of the Eastern Homœopathic Association is now a thing of the past. Its success has far exceeded the expectations of its sponsor and his friends. Originally suggested in the course of a casual conversation at Washington in 1921, it has developed into what will be a most important part of the medical organization, if indeed it does not prove to be a necessary factor hereafter. Leaving all matters aside, the large attendance has proven that it has filled a vacancy in our list of societies.

We have spoken of the large attendance. It was very large, especially as to the doctors. The doctors' families were not so much in evidence as they should have been, probably because the fact that the liberal provisions made for their entertainment were not fully appreciated beforehand. The fault remains, therefore, with those who did not come, for ample notices and invitations were sent in advance of the meeting not only by President Belting, but by different social and civic associations of Trenton.

The attendance of physicians was remarkable. At the opening scientific session on Wednesday afternoon, when the section on *Materia Medica* reported, the room was crowded to capacity, and over 175 members were counted seated. Others were standing, and still others looked in and passed by. On Thursday there was the usual additional influx of members incidental to the second day of a convention. The three rooms utilized were all filled to capacity. It is generally estimated that the attendance of physicians was in the neighborhood of 700.

The scientific portion of the programme was especially strong. THE HAHNEMANNIAN MONTHLY expects to have the privilege of publishing the many valuable papers presented. Our readers, therefore, will be the judges hereafter. The acoustic qualities of the meeting rooms were good; hence the listening to papers was relieved of boredom.

The many business, civic and social organizations of



Trenton were wonderfully active in extending their hospitalities. By hospitalities we do not mean the extension of acts of courtesy in a conventional way. Hospitalities were extended with a true spirit, such as is rarely encountered in any community. Members and visitors were not obliged to hunt for them that they might accept them. The hospitalities sought the guests at every turn.

The executive capacity back of all this was not personally in evidence. We emphasize the expression executive capacity, for such it really was. The many entertainment features might well have threatened to disrupt the scientific sessions. The manner in which they were presented really served to strengthen the entire programme.

The newspapers of Trenton were no less enthusiastic in our behalf than were the organizations. Plenty of news of the proper kind; double columns on the front page were the rule; and no mention of monkey glands, crazy misleading cancer and other cures, no glorification of individuals, were noteworthy.

Quite naturally the question is asked, "How were the wonderful results above mentioned achieved?" To one on the ground and well acquainted with professional sentiment, the answer is easy. In the first place, the details both large and small were in the hands of a capable man who had confidence in his job; who knew that the profession of the East demanded just such an association as the "Eastern," who knew that the interests of the Eastern Colleges and State Societies would be greatly enhanced if the different organizations were welded together by a common interest, and had special opportunities of exchange of opinions and for acting co-ordinately. In the second place, that man knew the value of dignified and ethical publicity, and certainly did his utmost in the many letters which he sent to the members of the State Societies of the New England and Middle States. Lastly, he secured the co-operation of virtually every Trenton organization of prominence and these vied with each other in looking after our interests and comforts. The many large business concerns of the city invited addresses from prominent men in our Society. These addresses related to such subjects as come under general and public sanitation and personal hygiene. Our orators also spoke to the pupils in the high and normal schools, and in the lower schools of advanced grade.

The credit of all of this wonderful meeting is due to President Belting alone. He has aroused our doctors from their lethargy. He has shown us our possibilities. Will the good work continue? We believe it will do so. Pessimists tell us that there is only one Belting, but they forget that when a man of capacity has taught others "how to do it" that sometimes, indeed very often, the pupils surpass the master, especially when as in this case, the teacher has been a past master in the art of instruction. Again the momentum given the Eastern Movement at Trenton is sufficient to exert its active influence for a number of years to come, but with the enthusiasm and confidence and professional spirit awakened in the profession of the New England and Middle States, it is likely to continue with its good work for an indefinite period.

The real danger of a successful organization is the fight for its control. So far as the danger from within is concerned, that is eliminated by the new by-laws which place the government of the Society in the hands of a Board of Directors composed of the Presidents and Secretaries of the constituent State Societies. Thus it will be that Maine, New Hampshire, Rhode Island and Delaware will have equal influence with the larger States, New York, New Jersey and Pennsylvania. The control of the Eastern Association will rest in the hands of those who have right and reason with them. From without, one never knows the political dangers. With the power vested in the Board of Directors, this danger should be virtually nil.

The programme was not marred by the introduction of disturbing features, *e. g.*, the Greek letter societies, societies which are right in their way, but that way is not at medical meetings, nor in medical society politics. Furthermore, the members of the Eastern Association were not afflicted with a flood of rhetorical pyrotechnics, for which every one was grateful.

After writing so much about the Eastern Association we feel that we owe our readers an apology for consuming so much space, for we could have said everything in one sentence: "Owing to the industry and remarkable executive capacity of its President, the First Annual Convention of the Eastern Medical Association was perfect."

**CHARLES FRANCIS BINGAMAN, M.D.**

THE homœopathic medical profession of the State of Pennsylvania has lost in the death of Dr. Charles Francis Bingaman on August 20, 1922, one of its most important and valuable members, a man who has been prominent among us since his graduation in 1871, and his location in Pittsburgh in 1872. A special compliment to Dr. Bingaman's personality rests upon the fact that his greatest popularity was among those who had the best acquaintance with him and who knew him thoroughly. He always possessed, even in youth, a marked reserve which led to slowness in making friends, but when once made they were life lasting. He was noted as a friend of the younger men, many of whom can give substantial testimony of prosperity which he started for them. He was very much liked by his patients and up to the time he retired from active work he was devoted to his practice. During the last few years of his life his entire time was given to the Pittsburgh Homœopathic Hospital. He held the position of president of the medical and surgical staff.

Dr. Bingaman attended the public schools at Lionville and later entered the military academy at West Chester, subsequently studying medicine with Dr. Joseph E. Jones, of West Chester. He graduated from the Hahnemann Medical College, Philadelphia, in 1871. During the following year he pursued his studies further and in 1872 located in Pittsburgh. He began in partnership with Dr. Marcellin Cote, which continued until the death of Dr. Cote in 1878. He also was for a time associated with Drs. Louis M. Rosseau and J. F. Roberts.

Shortly after locating in Pittsburgh he was appointed to the staff of the Pittsburgh Homœopathic Hospital. During these years Dr. Bingaman was actively interested in the well-being of the hospital. This is shown by a magnificent gift of \$125,000.00 for the erection of a maternity annex. This was increased by a later gift of \$50,000.00.

For the last eight years Dr. Bingaman was the president of the medical board of the Homœopathic Hospital.

He was a member of The Allegheny County Homœopathic Medical Society, The Homœopathic Medical Society of Pennsylvania, The American Institute of Homœopathy, The Du-

quesne Club, The East End Doctors' Club, Franklin Lodge No. 221, F. & A. M., and the Baptist Church.

For many years Dr. Bingaman examined applicants for West Point and Annapolis, was examiner for the Provident Life and Trust Company, and State Examiner for the Royal Arcanum.

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### THE NEW TREATMENT OF DIABETES

THE secular press of the United States has recently created quite a sensation concerning the research work done in McLeod's laboratory in Toronto by F. G. Banting and C. H. Best. Their discoveries mark a distinct advance in a knowledge of the principles which must appear to some cases; at least of distinct value in the treatment of diabetes. They start their research work with the knowledge that if the ducts of the pancreas are tied the acinous portion of the gland dies and is gradually replaced by fibrous tissue. The islands, on the contrary, do not seem to be affected at all by this procedure and the animal does not show any signs of diabetes. Similar effects occur when the pancreatic duct is injected with lamp-black and can also be seen in cases of chronic pancreatitis occurring in human beings. Banting and Best took advantage in this change in the following way: They tied the ducts of the pancreas of dogs and after an interval of seven to ten weeks removed the pancreas and made an extract of the chilled gland with a neutral solution. This extract, when injected into the veins of a dog whose pancreas has been completely removed, always causes a fall in the blood-sugar and a decrease in the amount of sugar excreted. The extract had to be given every four hours in order to keep the blood-sugar at the normal level, and was effective only when injected intravenously, being apparently inert when given per rectum. No mention is made of its action when given by mouth. The extract can be kept in cold storage without harm for about seven days and is not affected by a weak acid solution. But an alkaline solution, boiling, or incubation with a tryptic extract destroys its action. The action of fresh pancreatic extracts was then compared with those in which the acinous portion of the gland was atrophied. It was found that the fresh extracts also had the effect of lowering the blood-sugar and diminishing the sugar

output, but always caused many symptoms of toxicity in the animals and also thrombosis of the veins; and the same unpleasant effects followed injections of pancreatic extracts prepared from the pancreas of animals which had been exhausted as much as possible by secretin injections. Quite recently they have prepared a pancreatic extract from a 5-month bovine foetus and were able therewith to keep a depancreatized dog alive for 70 days. This experimental work thus offers a convincing proof of the existence of an internal secretion coming from the islands of Langerhans and should serve to satisfy those who doubted the microscopic evidence.

So much for the laboratory work. Clinically, the new remedy or hormone extract has been tried on seven cases in Toronto. The result has been always a fall in the blood-sugar and a decrease in the amount of sugar excreted. As soon, however, as the injections ceased, the blood and urine sugar increased again. It also appears to cause a prompt disappearance of diacetic acid.

It is very plain, therefore, that the newspapers have grossly exaggerated the value of the Banting and Best extract, thus leading the diabetic to false hope and possibly astray from methods of treatment which we know to be good as far as they go. A cure it certainly is not. On the other hand it would appear to be especially applicable as a temporary expedient in threatening or in developing acidosis. It may be of great value also as a preliminary measure in surgery on diabetic subjects. Thus far the remedy appears to be impracticable for general use owing to the impossibility of making it in sufficient quantities to supply the demand. With the knowledge so far gained, it would seem possible, if not actually probable, that the physiological chemist may soon prepare a synthetic preparation which will have all the virtues of the animal pancreatic extract.

When we first read of the Banting and Best research work and the futility of making it a remedy for general use, we did a little figuring on our own account about as follows: One dog will provide enough extract to treat a diabetic dog and, therefore, a diabetic patient for two days. There are 500,000 diabetics in the United States. The above would mean that each patient would consume 180 dogs annually in order to keep itself sugar-free. A half million patients, if all used the drug, would consume 90,000,000 dogs annually. Our arith-

metical nightmare increases as the figure become more and more stupendous. It takes from seven to ten weeks, let us call it seven weeks, to prepare the dog for the therapeutic altar. Let us assume that good operators can fix up 50 dogs daily. This would mean in the neighborhood of four or five thousand operators constantly at work in the preliminary step of manufacture. Now these operated dogs must be kept seven weeks which means that there must be approximately 15,000,000 dogs on hand in different stages of operative recovery. Now let us romance once more, let us realize the necessity for taking care of 15,000,000 dogs and of their environments. Think of the details in insuring their freedom from infectious disease, the care required in the preparation of the serum and of its marketing. How many thousand people would be required we do not know. It is even possible that the new industry may outdo the automobile industry of the day and a new city incorporated for it. Detroit, now the home of automobile manufacture, may drop one point lower as a populous center. We hardly dare make New York and Chicago take back seats.

Necessarily such a stupendous operation requires financing. We would hardly dare do it on less capital than that of United States Steel at one billion dollars. Of course, the new company would be listed on the New York stock exchange and thus we would have daily quotations of American Dog Preferred and American Dog Common showing the progress of the business.

After all, what is the use of all this when it is more than an even chance that the physiological chemists will place the new remedy within the reach of the poorest diabetic inside of two years from this date.

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A CASE OF CANINE SCABIES IN MAN.—Three days after the purchase of a dog the patient reported by W. Dybreuilh began to have an eruption which extended to the four limbs and was formed by small vesicles resting on pink miliary papules. Pruritus was more marked during the day than at night. A female parasite was found in one of the papules, which could not be differentiated from the parasite usually found in human scabies. The lesions of the dog were constituted by small crusts and fine dry scales. No sarcoptes were found in the animal.—*Soc. franc. de dermat. et syph.*, Paris, 1922.

## GLEANINGS

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### MEDICINE

Conducted by CLARENCE BARTLETT, M.D.

**A NEW DIAGNOSTIC SIGN IN SCARLET FEVER.**—From a review of recent work on scarlet fever in Medical Science for September by Dr. J. D. Rolleston and Dr. C. Lillingston, we learn that considerable attention has lately been paid on the Continent, especially in Germany, to a new diagnostic method introduced by Schultz and Charlton, and known by the name of the "extinction sign" (*Ausloschphänomen*). The test is carried out as follows. At the height of the eruption the patient is injected intracutaneously with 1 c.cm. of convalescent or normal human serum, and if the case is one of scarlet fever, an anaemic zone appears five to eight hours later, varying in size from that of a five-shilling piece to that of the palm of the hand. The phenomenon does not follow the injection of the serum of a scarlet fever patient in the acute stage, nor the injection of normal horse serum, diphtheria antitoxin, normal saline, or adrenalin solution, nor does it occur in measles or mercurial scarlatiniform rashes. Among 71 cases of scarlet fever in which Dr. Paschen of Hamburg tried this test it was positive in 62 and negative in nine, but in the negative cases the serum was used too late, or not injected intracutaneously. As an explanation of the phenomenon Dr. Paschen suggests that the dilatation of the cutaneous vessels caused by the scarlatinal toxin becomes converted into vaso-constriction by some peculiar property in convalescent or normal human serum. Similarly Dr. Neumann of Hamburg in 64 cases of scarlet fever obtained a positive result with very few exceptions which might be attributed to the early disappearance of the eruption, whereas the result was negative in measles, toxic scarlatiniform rashes, urticaria, serum eruptions, and paratyphoid fever roseola. He pointed out that advantage might be taken of the fact that scarlet fever serum in the acute stage does not cause the rash to fade by injecting the serum of a suspected case in which the rash is illmarked or faded into an undoubted case of scarlet fever, with a well-developed rash. Disappearance of the rash as the result of the injection indicates that the doubtful case is not scarlet fever, whereas if the rash is not affected the diagnosis of scarlet fever is established. While the majority of observers have confirmed the value of the test, it is interesting to note that at least two—namely, Dr. Tron of the Milan Hospital for Contagious Diseases and Dr. Haselhorst of the Hamburg University Medical Clinic—did not find the sign sufficiently constant to justify its being regarded as of diagnostic value. Moreover, the necessity of first performing a Wassermann reaction and testing the serum for sterility before injection makes it doubtful whether the test will ever become widely applicable.—*The Lancet*, September 16, 1922.

**SYPHILIS AND MENTAL DEFICIENCY.**—Key and Pijper (*South African Med. Record*, April 22nd, 1922, p. 142) report the results of their investigations into the part played by syphilis in the causation of mental deficiency in 217 cases. The diagnosis of syphilis was based solely upon the Wassermann reaction, and, although looked for in each case, the stigmata of hereditary syphilis were very seldom present. The degree of mental deficiency was based upon intelligence tests, the Stanford revision of the Binet-Simon scale being used, giving the mental age of an adult idiot as under 3, of an adult imbecile as between 3 and 7, and of an adult feeble-minded as between 7 and 11 years, border-line cases being excluded. The highest degree of positive Wassermann results occurred in the lowest degree of amentia—namely, idiocy—and of the 217 serums examined 120 (55.2 per cent.) were positive. To a certain extent the incidence of the test decreases as age advances, and the same applies to its intensity after the age of 25. There does not appear to be any symptom, or group of symptoms, common to those giving a positive reaction, and it is doubtful if the syphilitic virus is the sole agent responsible for the amentia in all the cases, some other predisposing cause probably being present in most of them; syphilis, though a sufficient factor in itself, often exerting a deciding influence where morbid heredity or other unfavorable conditions are present. Could the family histories have been thoroughly investigated it is highly probable that a fairly large proportion of them would have shown a neuropathic inheritance, and, if ever such investigations can be systematically undertaken, the institution of antisyphilitic treatment in parents, and their children from birth, would exercise a decided check upon the growth of the mentally deficient population in South Africa.

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#### SURGERY

Conducted by J. DEAN ELLIOTT, M.D.

**THE VALUE OF TEMPORARY COLOSTOMY.**—Hirschman points out that all forms of chronic colitis are characterized by two principal symptoms, hyperperistalsis and hypersecretion. These are evidences of the attempt on the part of the organism to rid itself of irritating material. In chronic disease an atonic condition will supervene, the bowel musculature will lose its tone and destructive processes extend with greater freedom. It makes no difference whether the infection is syphilitic, tuberculous or dysenteric, the result of metallic or food poisoning, or the simple ulcerative type; suspension of physiologic activity, in addition to the administration of specific measures or remedies by hypodermic, internal administration or local application is of prime importance. Administration of colonic irrigation by the rectal tube is merely of fractional value. The solution will carry disease products above the lesion, expulsion of this material is complete and much of it remains in the cecum and along the walls of the colon. Irrigation from above downward can be done through an appendicostomy or cecostomy and this has successfully cured many types of colitis, but when the patient is becoming anemic from continual loss of blood or suffering from systemic effects of infection and suppurative conditions the organ must be given as nearly absolute rest as possible. The point of election for the artificial anus should be determined after a thorough roentgenologic



study and an examination through an abdominal incision. The author believes the time for halfway medical measures, enemas and colonic irrigations, has passed, and the treatment of chronic and severe colonic diseases will be materially improved by physiologic rest and direct treatment and irrigation afforded by the more general use of temporary colostomy. The employment of local anesthesia has robbed this operation of much of the risk inherent in etherization, has placed it among the list of safe surgical procedures, and has made it a life-saving measure of the greatest value.—*The Journal of the Amer. Med. Ass'n.*, September 23, 1922.

**DIRECT TRANSFUSION OF BLOOD.**—Horsley, Vaughan and Dodson emphasize the fact that in indirect transfusion, particularly in citrate transfusion, there are chemical and biologic changes in the blood, and it seems probable that the reactions which often follow this method of transfusion are due to these changes. They believe citrate transfusion at best is but a make-shift method and it is only because of the relative difficulty and inconvenience of performing the direct transfusion that the indirect method obtained such favor. During the last 18 months they have performed 24 direct transfusions with the use of the cannula devised by Bernheim. They describe their technique in detail and have had no reactions.

Most of the transfusions have been performed on patients at the time of operation, and the presence of a low-grade febrile reaction cannot be taken as evidence of transfusion reaction, unless accompanied by other distinctive signs. In none has chill occurred, and in none has there been any nausea, vomiting, respiratory distress, urticaria, or other symptom than that usually found in similar post-operative cases. It is customary, in discussing transfusion, not to consider an increase of 1 or 2 degrees of temperature, with entire absence of other manifestations, as evidence of reaction.—*Archives of Surgery*, September, 1922.

**THE FUNCTION OF THE GALL-BLADDER IN BILIARY FLOW.**—Jacobson and Gydesen relate a number of animal experiments which they carried out in an attempt to find the function of the gall-bladder. As a result of these experiments they state that bile as a secretory product of the liver is produced probably through hormone stimulation associated with the production of acid chyme in the stomach. The height of biliary flow is coincident with the passage of the acid chyme into the duodenum and there is a marked similarity between the curve of bile production and that of pancreatic secretion. The smaller continuous secretion of the liver is stored in the gall-bladder, which acts as a reservoir, until evacuated by the demands of digestion. The storage capacity of the gall-bladder is augmented by its remarkable concentrating power. The S-shaped configuration of the neck and ampulla of the gall-bladder prevents over-distention of the gall-bladder. When over-distended it prevents the exit of bile. By altering the peculiar configuration of this portion of the gall-bladder and cystic duct, inflammatory conditions may readily produce a nonfunctioning gall-bladder. The sphincter of Oddi, a definite muscle entity at the duodenal end of the common duct, sustains an absolute pressure of about 150 mm. of water. The gall-bladder undoubtedly equalizes the great fluctuations in this pressure due to movements of the abdominal muscles and contiguous organs. Cholecystectomy tends to produce a lowered intraductal pressure and a relaxed tone of the sphincter of Oddi.

The sphincter is probably under reflex nervous control associated with the passage of acid chyme into the duodenum and with intrinsic movements of the duodenum itself. Magnesium sulphate does produce a complete, local relaxation of the duodenal wall and the papillary sphincter, with reduction of the intraductal pressure. Relaxation is transient and is usually accompanied by a flow of bile from the orifice. There was no evidence that concentrated magnesium sulphate produced any contraction of the gall-bladder or any specific change in the gall-bladder pressure. The augmented biliary flow from its application is probably due to the evacuation of the bile from the bile ducts as a result of sphincter relaxation and also to the stimulating effect of the salt upon the liver secretion. Flow of bile from the gall-bladder has been produced in certain cases by injection of large amounts of 0.4 per cent. hydrochloric acid into the duodenum. This probably is the mechanism of its discharge at the beginning of digestion. The production of mucus and the concentration power of the gall-bladder are suggestive of some purposeful differentiation of that structure, although its removal has been, in human beings, without any definite, clinically demonstrable deleterious effects.—*Archives of Surgery*, September, 1922.

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#### DERMATOLOGY

Conducted by RALPH BERNSTEIN, M.D., F.A.C.P.

**SKIN CHANGES IN TUBEROUS SCLEROSIS.**—Bourneville, in 1880, was the first to arouse interest in this subject. Other investigators have established a relation between cerebral and nervous affections and changes of the skin. These are briefly reviewed. The mere mention of adenoma sebaceum and Recklinghausen's disease recalls others. Every case of epilepsy should be investigated for skin changes. Unilateral affections should be given consideration for their possible relation to brain pathology. The history and physical findings in a case of peculiar maldevelopment of the skin, probably of the nevus group, are recorded. The anomaly involved the back and appeared as if it depended upon the nerve segments or segmental anlage. Only the epidermis was affected, and that in the form of an undescribed hyperkeratosis with secondary change. The pigmentary changes were insignificant. Histologically, acanthosis, hyperkeratinization, and the formation of follicular cysts were noted. The prickle cell layer was edematous. The conclusion was reached that the cutaneous change was an especially large nevus keratinosus in an epileptic on the basis of tuberous sclerosis.—*Arch. f. Dermat. u. Syph.*

**VENESECTION IN DERMATOLOGY.**—Stern reviews experiences with venesection in the field of dermatology begun about twenty years ago. His attention was first attracted to this method by the effects of its use in the case of a patient with uremia who also had lupus. Many years ago, before lumbar puncture was well known, he used venesection in cases of meningitis serosa luetica. More recently he advised the use of the procedure preceding lumbar puncture in similar cases—the number of which has increased since the advent of arsphenamin. Any type of arsphenamin intoxication is an indication for venesection. Sodium chlorid may be introduced if any signs of dermatitis are present. Urticaria and similar intoxications, are

also indications for this treatment. Good results have been observed following venesection, with and without the introduction of salt or Ringer's solutions, and with and without the reintroduction of blood or serum. Favorable influence on the duration of life has also been seen in pemphigus and dermatitis herpetiformis. Certain cases of Unna's seborrhoeic eczema, chronic pyoderma, and poorly granulating ulcerations, have been benefited and venesection has been an adjuvant to other treatment in tuberculosis of the skin. The amount of blood withdrawn ranges from 100 to 150 gm. for the skin conditions, and larger amounts (300-500 gm.) for the cases of meningitis. Hyperleukocytosis follows venesection.—*Arch. f. Dermat. u. Syph.*

**MATCHBOX DERMATITIS AND CONJUNCTIVITIS.**—In 1918, C. Rasch reported several cases of a peculiar skin disease which was caused by touching a certain make of Swedish match-boxes. This report was followed by several similar reports both in Denmark, Sweden and North America. In Germany a similar disease had been observed—independently of the author's report—caused by handling match-boxes manufactured by a Silesian factory. As an epidemic of this disease has again been observed, the author considers it necessary to supplement his previous observations.

During the first five months of this year the author has observed four cases of match-box dermatitis in Copenhagen. One of the patients had a very severe dermatitis localized on fingers, throat and face, which lasted for fourteen days. Simultaneously, blepharoconjunctivitis and a total closing of the eyelids were observed. The author has also observed the disease in women who smoke cigarettes and thus handle match-boxes. Johannes Christiansen tested the toxicity of the match-box by heating the side of the box over a gas flame in a dark room. If the match-box was poisonous, a blue flame was observed before the box ignited; in the case of atoxic boxes such a blue flame was never observed. The poisonous boxes were all made during the war (1917) and their toxicity is explained as follows: Phosphorus was very scarce in Sweden during the war, and phosphorus sesquisulphid was substituted for it. All the match-boxes in which this substance has been employed are poisonous and cause dermatitis and conjunctivitis in certain individuals with a predisposition to the disease. The number of these individuals is, however, very small; the author examined 140 persons of whom only 2 showed a tendency to match-box dermatitis.—*Ugesk. f. Laeger.*

**THE REMOVAL OF PIGMENT SPOTS FROM THE SKIN (FRECKLES, LENTICULAS AND PIGMENTED MOLES.)**—In contrast to the purely symptomatic or temporary effect of salves, according to Gertrud Kromayer, direct removal with the Paquelin cautery or electrolysis may cause injury to the cutis propria, resulting in disfiguring scars. It is possible to remove the epidermis and cutis vasculosa by mechanical scraping or by corrosives, after anaesthesia with carbon dioxid snow or infiltration. After the bleeding and serious exudation have stopped, the wound is covered with cotton, which with the dry secretion forms a thin covering that falls off after ten to fourteen days. After two months the place cannot be distinguished from the surrounding skin. This method is especially good for the removal of large moles.—*Deutsch. med. Wchnschr., Berlin, April, 1922.*

## UROLOGY

Conducted by LEON T. ASHCRAFT, M.D.

**STUDIES OF MALIGNANT TUMORS OF THE KIDNEY.**—L. J. Lindstroem reports the histories and the results of a macroscopic and microscopic study of forty malignant tumors of the kidney which were seen during a period of twenty-three years (1897-1919) in the surgical clinics of the University of Helsingfors.

In the anatomical division of the article the mixed tumors (five cases) are discussed first. The origin of these growths the author believes is to be sought in the relatively highly differentiated cells, namely, in the anlage of the permanent kidney. To explain their appearance it is not necessary to assume an abnormal cell connection as cells of the metanephron may have been arrested in their development by local disturbances, proliferating pathologically later.

Of six renal sarcomata, three occurred in children between 1½ and 15 years of age, and three occurred in adults between 55 and 60 years of age. The sarcomata developing in children are differentiated microscopically from those of adults by a greater abundance of cells (round and spindle cells), by a smaller amount of intercellular substance, and by their tendency to metastasize. The question of the genetic equivalence of sarcomata is not definitely decided by the author, but he states that many facts indicate that the sarcomata of children depend upon embryonic aberrations whereas those of adults have their origin in the developed connective tissue of the kidney or renal capsule.

In the one case of carcinoma of the renal pelvis, which microscopic examination proved to be a case of pavement-cell epithelioma, the tumor differed macroscopically from the other types of renal tumors. Pathologically, carcinomata of the renal pelvis are characterized by their invasion of other organs and their tendency to form metastases in the other kidney and the bladder. Whether this metastasis occurs by way of the urinary tract or by way of the lymphatics is still unknown.

The majority of the growths studied were Grawitz tumors (twenty-eight cases). These may form metastases by way of the blood and lymph vessels or by implantation through the urinary tract. The author classifies them as follows: (1) the papillary form, (2) the solid papillary form, (3) the adenoma-like (cystopapillary) form, (4) the solid alveolar form. The genesis of Grawitz tumors is discussed and the Grawitz theory that they arise from adrenal tissue is denied chiefly because both intrarenal and intrapapillary tumors of the same type are found. The author assumes that the cause of Grawitz tumors is to be sought in embryonic malformations inhibiting the differentiation of the cells of the secretory renal epithelium.

In the clinical part of the article it is shown that the initial symptoms often vary markedly. Frequently caehexia and fever are added to the classical signs of haematuria, tumor, and pain. Varicocele associated with a tumor was seen only once. Skin changes, such as those described by Clairmont and Kapsammer as "Epheliden," were never observed.

The only rational treatment is lumbar nephrectomy. The contra-indications are immobility of the tumor, varicose veins on the abdomen and leg (Israel), degenerative changes in the heart of elderly persons, and

continuous intensive pain, which indicate that the most favorable time for operation has passed. Of forty patients operated upon five (12.5 per cent.) died. Of eight children under 15 years of age with malignant renal tumors all died of recurrence within nine months. Only 25.8 per cent. of the total number of patients remained free from recurrence for three years.—*Arch. a. d. path. Inst. d. Univ. Helsingfors*, 1921, n. s. ii, 299.

**COMPLICATIONS OF PROSTATECTOMY.**—Dr. Franklin R. Wright says in his article on this subject, that the complications of prostatectomy naturally divide themselves into three groups; those which occur at the operation, those which occur immediately following the operation, and those which take place during the healing process. Those which occur at the time of the operation are the accidental opening of the peritoneum and hemorrhage. This accident is not of serious nature. Hemorrhage at the time of operation may be anything from a slight loss of blood to one which threatens the patient's life. Troublesome hemorrhage may come from the edge of the bladder mucous membrane where, during the enucleation, the urethral mucous membrane was torn from it, or may come as a general oozing from the surface of the cavity from which the tumor was enucleated. Neither of these two forms is serious. The third form of hemorrhage is of serious nature. If in attempting to enucleate the tumor from the prostate, the prostatic sheath is torn, a venous plexus is torn, and the hemorrhage is alarming. The prognosis in these cases is not good. We can control hemorrhage; but as virtually all these bladders are septic, the clots which form under the packing in the torn veins become septic, and patients die of general sepsis about the fifth or sixth day. Complications immediately following operation are uremia, reflex conditions and infections.—*Journal American Medical Assn.*

**THE NON-OPERATIVE TREATMENT OF URETERAL CALCULUS.**—According to Burger, cystoscopic intervention is advisable in almost all cases of ureteral stone within a short period after the stone has found lodgment in the ureter in its descent from the kidney.

To accept the dictum that calculi one centimeter or more in diameter, even to a diameter of two centimeters, are often expelled spontaneously by Nature, is a generalization that is fraught with considerable danger to the individual case, although true in many instances. So many are the complications in the ureter and kidney, and so great is the danger of impaction and local growth of the calculus, that many of the cases in which ureterotomy or some renal operation has become necessary would have escaped either one or both of these procedures by the timely application of cystoscopic methods.

Treatment with the ureter catheter should be given so as to prevent chronic hydronephrosis, both by emptying and dilating the ureteral channel, even if this does not move the ureter calculus.

In every instance of positive calculus obstruction demonstrable either with the x-ray or with the cystoscope, cystoscopic treatment is in order, unless the stone is immediately passed (within 24-72 hours.)

Attacks of pain are usually an indication of retention of urine.

Continuous pain usually indicates complete retention.

The absence of pain after one or more attacks of ureter colic does not

imply the absence of renal distention, for chronic distention may exist with rare attacks of exacerbation, the latter manifestations being the only ones that arouse the interest of the patient.

The improvement in cystoscopic technique by means of special instruments has noticeably reduced major operations on the ureters.—*Medical Record*, April 1, 1922.

#### ROENTGENOLOGY

Conducted by WALTER C. BARKER, M.D.

**THE ROENTGENOLOGICAL ASPECTS OF ACHYLIA GASTRICA.**—Crane states that the term "Gastric Achylia" was introduced into medical literature by Einhorn to mean absences of gastric juice. He quotes Barker as stating that it is becoming commonly used to mean absence of free hydrochloric acid. The author thinks that it is a better term than achlorhydria which refers to a functional absence of hydrochloric acid, while achylia means an organic change in the wall of the stomach resulting in the absence of hydrochloric acid during the whole digestive cycle.

Therefore, with few exceptions, in all of the 1,000 cases which form the basis of this thesis, to assure that hydrochloric acid was absent during the whole period that the meal remained in the stomach, a fractional gastric contents examination was made using the Ewald test meal, and obtaining the gastric contents five or six times at fifteen minutes intervals.

The author states that the importance of knowing the fact of the absence of hydrochloric acid in the stomach contents, is because it occurs so frequently in gastro-intestinal cases, is associated with abdominal pain, and may make a difference in the interpretation of the roentgen findings, especially those referring to duodenal ulcer.

Figures were quoted, notably from Lockwood and Stockton to show that in gastric cases, the percentage of those with achylia increased with the age of the patient and by far the largest percentage occurred in patients after the fifth decade of life. This is important to note because of the variation of the type of pain occurring in these patients. Out of 1,000 gastric examinations, 158 had achylia, and 102 of these had abdominal pain. Of those having pain, 26 had gastric cancer, 1 gastric syphilis, 17 gall bladder disease, 9 appendicitis, 8 pericolic adhesions, 2 mucocolitis, 11 spondylitis deformans, and 17 pernicious anemia. Therefore, considering the number of cases without pain and those with other conditions present to account for the pain, it seems that pain is not a direct symptom of gastric achylia, and a thorough roentgen examination should always be made, to determine the presence of other pathology to account for the pain. The author suggests the examination of the thorax as 22 out of his series of cases had intrathoracic disease of the circulatory apparatus and 8 had pulmonary tuberculosis. The teeth should be examined as 25 of his cases had dental sepsis.

The differentiation between gastric cancer and pernicious anemia is important. Both have achylia, vaguely abdominal pain and similar changes in the cell constituents of the blood. Here the roentgen examination will show the presence or absence of gastric cancer.

In the case of gastric syphilis and cancer, the distinction cannot always be made by the roentgen examination, nor by the exploratory incision,

and a positive Wassermann will not exclude the presence of cancer; therefore the author states that in all doubtful cases, the therapeutic test should be made.

Alterations in the motility of the gastro-intestinal tract are common when achylia is present. How many of the cases with a delayed motility were due to an associated gastropotosis, the author was unable to say. As the position of the stomach may vary without symptoms, it is noted only in exaggerated cases.

Hypermotility is frequently present. Stockton in commenting on the frequency of diarrhea in these patients, directs attention to the rapid emptying of the stomach, the increased peristalsis of the small and large intestine resulting in lenteric stools. Of the author's 158 cases, 12 only had diarrhea but a large number had hypermotility of the stomach, and this is of interest to the roentgenologist.

It is important to consider the similarity in the behaviour of the motility of the stomach when achylia or duodenal ulcer without obstruction is present. Because increased peristaltic action and hypermotility may be present in either case, and the meal may pass so rapidly as not to distend the bulb, a diagnosis of duodenal ulcer may be made when the condition is due to achylia. Even hunger epigastric pain may be present in the case of achylia and none of the author's 158 cases were associated with gastric or duodenal ulcer, as was proven when operation or autopsies were performed.

Therefore, Crane believes that in all cases where there is deformity of the duodenum, the roentgenologist should know whether achylia is present or absent before making a diagnosis of duodenal ulcer.

The author makes no special claim for the figures quoted for the 1,000 cases examined, as another series of cases would show quite different percentages, because of the wide range of various pathologic conditions that may be present with gastric achylia.—*Am. J. of Roentg.*, Sept., 1922.

**TUBERCULAR EPIPHYSIS OF THE GREATER TROCHANTER.**—Keith states that only one case of tubercular epiphysis of the greater trochanter was found reported in the literature. In his case, there is a history of accident and an x-ray examination was made several weeks later, which showed no evidence of injury or disease to the femur.

Four months later, a tumor appeared which was palpable over the right hip. The superficial veins were dilated and motion was restricted in all directions.

At this time, a roentgen examination showed the bones of the pelvis and femur to be normal, with the exception of an area of bone destruction at the epiphysis of the great trochanter. There was bone proliferation and islands of bone in the surrounding soft structures.

The roentgenographic findings were those of neoplasm and the clinical and surgical diagnosis was degenerated sarcoma. Reports from two laboratories of the microscopic examination of tissue removed at operation, was that the structural changes were due to tuberculosis.

One year later, roentgen examination showed healed bone and small islands of bone in the adjacent soft structures.—*Am. J. of Roentg.*, Sept., 1922.

## PEDIATRICS

Conducted by C. S. RAUE, M.D.

**PROGNOSIS AND TREATMENT OF TUBERCULOSIS IN INFANCY AND CHILDHOOD.**—Tuberculosis in infancy, which is localized, may often be cured by prompt interference and thorough treatment according to Rowland G. Freeman. If, however, it has involved the lungs, it rapidly becomes a generalized tuberculosis, and gives an absolutely bad prognosis. Tuberculosis in either infancy or early childhood, whether rapidly progressing or slow in its progress, causes comparatively little emaciation. If an infant or young child with a chronic lung condition emaciates rapidly the probability is that the condition is not tuberculous. Enlarged bronchial lymph nodes, when present, may be shown with the x-ray plate if the picture is taken in a lateral oblique angle instead of in anteroposterior position. Tuberculosis of the lungs in children over 1 or 2 years of age may, in many cases, be cured if prompt action is taken; if fresh air is used persistently; heliotherapy, cautiously; and rest, full nourishing and digestive diet, and cod liver oil are given. These children, if destined to do well, rapidly lose their temperature, and soon gain weight, while the physical signs and the x-ray pictures of the chest will more gradually show improvement.—*Archives of Pediatrics*, August, 1922.

**THE UNDERNOURISHED CHILD.**—From an etiological standpoint these undernourished children fall into two groups; those due to actual starvation, and inability to obtain sufficient food of proper composition, vitamine content, etc., and those due to inability to digest and assimilate. The former group is a very small one while the latter group includes the vast majority of undernourished children discovered during school medical examinations and of those referred for treatment whether of school age or younger. Infant feeding is pretty well standardized, the importance of its careful supervision is appreciated, but unfortunately there is still a tendency for the physician to feel that his responsibility ceases at the end of the first year. Proper physical development unquestionably depends almost entirely upon development and protection of the digestive tract and digestive development depends upon judicious assignment of work to do. The effect of prolonged nursing and long continued bottle feeding is a good illustration of the effect of pampering the digestive organs. These children do not develop normally and lack resistance to disease. Under present conditions one year at the breast should be considered the limit and the bottle should be looked upon as a substitute for the breast where necessary and withdrawn at the same time. There is no doubt the tendency to give sloppy food too long has a real bearing upon the whole subject of malnutrition. From the first year on the essentials of management should be the following: A definite number of meals daily given with absolute regularity as to time; to establish a regular digestive habit, and separated by an interval long enough to insure complete digestion and the establishment of an appetite. Absolute abstinence from food between meals, nothing but water being allowed. The diet should be a mixed one, specified quantities of individual foods with enough green vegetables to stimulate peristalsis and thereby insure regularity of the bowels and avoidance of stagnation, the factor in the production of fermentation products. Mastication



tion should be encouraged. A typical case presents the following picture: The child's complexion is sallow, with dark rings about the eyes; he looks, as the English express it, "livery;" the body is wasted and under-developed; the belly large; the extremities, small; he is anemic; the tongue is usually coated lightly and often slimy from a deposit of mucus over the surface. The mental condition of the patient is dull or disinterested, or the general manner may give the impression of unhappiness or discontent. He is irritable, flies off into fits of temper or cries upon slight provocation, suffers from day and night terrors, and may be a sleep-walker or sleep-talker. Headaches are common, and various skin lesions appear from time to time, principally urticarias and eczema. Muscular incoordination causes these children to stumble and fall without apparent cause; speech defects are occasionally noted.—Vander Bogert, in *Archives of Pediatrics*, August, 1922.

**THE CAUSE OF WHOOPING COUGH.**—Proctor Hall found, in the stomach washings of patients with pertussis, a white tenacious mucoid mass which, upon being studied microscopically and culturally, proved to be made up of penicillium, a form of mold occurring on fruit vegetables. This discovery leads the author to inquire whether whooping cough may not be due to the presence of penicillium in the stomach. In eight of his cases lavage of the stomach cured the disease in from three to six days. The relief was immediate. Lavage was given twice a day, before meals and the diet restricted to food that is quickly digested, excluding milk, though malted milk may be given with advantage. For lavage Hall uses two quarts of water containing twenty minims of lysol and alternates this with water containing three or four drams of sodium bicarbonate. He uses a Turck's double stomach tube.—*New York Medical Journal*, August 2, 1922.

**NEW TREATMENT FOR MUMPS.**—Mallie (*Journal de Médecine de Bordeaux*, Jan. 10, 1922.) reports excellent results with the curative use of anti-diphtheritic serum in mumps; the orchitis and other complications were especially beneficially influenced. The prophylactic efficacy has as yet not been proven, and the figures vary so much as to be unreliable. The method of treatment was first recommended by Salvaneschi in 1917, and later elaborated by Bonnamour and Bardin in 1918 and 1920.—*Archives of Pediatrics*, August, 1922.

**INDICATIONS FOR TONSILLECTOMY IN INFANCY AND CHILDHOOD. IS THE MODERN TENDENCY TOWARD UNIVERSAL TONSILLECTOMY JUSTIFIED?**—Henry Heiman lays down the following rules in selecting cases for removal of tonsils and adenoids:

1. If there are obstructive symptoms, mouth breathing (snoring at night) with no evidence of a high arched palate as the cause of obstruction, the adenoids should be removed.
2. If there is a persistent nasal discharge that does not yield to the usual therapeutic measures and in the absence of a sinusitis the adenoid-ectomy should be performed.
3. If the tonsils are sufficiently large to cause obstruction, difficulty in breathing or swallowing, tonsillectomy is indicated. One must not be misled, however, by the presence of a large tonsil that appears to be obstructive, a tonsil that is rather pushed out toward the median line by the presence of a deep cervical adenitis.

4. If the frequent occurrence of tonsillitis has produced definite disease in the tonsils, as evidenced by irregularity, raggedness and friability, tonsillectomy is indicated.

5. If there is recurrent accumulation of cheesy material in the crypts of the tonsils, or if on pressure this may be extruded from the tonsils, with the presence of a foul odor of the patient's breath and symptoms of toxic absorption, the tonsils should be removed.

6. In cases of persistent cervical adenitis following tonsillitis, whether by pyogenic or tuberculous origin, tonsillectomy is indicated.—*American Journal of Diseases of Children*, September, 1922.

**ACUTE INTESTINAL DISEASES.**—K. Bluhdorn states that a more important cause of intestinal diseases in early infancy than "sour, spoiled milk" is an overfeeding with a perfectly rational food. In summer, when immunity is usually considerably lowered by the effects of heat, overfeeding becomes particularly dangerous. The acute intestinal diseases of infants are divided into: (1) mild; (2) severe, (a) nontoxic, (b) toxic; (3) infectious. In mild cases of intestinal catarrh, further progress is stopped by removing soluble carbohydrates, particularly sugar, from the food; should this prove to be insufficient, then it is advisable to reduce the amount of food to one-fourth of the usual ration.

In a case of severe diarrhea, it is advisable to give tea treatment for twelve to eighteen hours, following it up with ordinary milk food ( $\frac{1}{2}$  milk,  $\frac{1}{2}$  gruel); the first day this food is served 5 times in amounts according to the age of the infant; during the following days the amount is gradually increased, with the addition of sugar; in the case of infants over 6 months, it may soon be possible to give the midday meal (cereal, or cereal and broth). The treatment of parenteral diarrhea, which usually is a harmless secondary symptom of many febrile diseases during early infancy, and which disappears when the primary disease does, is about the same as that of mild intestinal catarrh. The writer warns against a careless use of purgatives in the case of febrile disturbances, on account of the great sensitiveness of the intestines. Any case of mild diarrhea, if it lasts very long and is not properly treated, may develop serious, even toxic, symptoms. To the group of more or less serious, nontoxic disturbances of digestion also belong those cases of intestinal diseases which affect underdeveloped infants, whose system has been already undermined by previous mild attacks of diarrhea, or by other infections, and also the so-called hypotrophic or dystrophic, as well as emaciated, atrophic infants. The severity of the disease ought to be judged less by the kind and number of stools than by the general condition of the child. Any acute intestinal disease occurring during the first 3 months of life in artificially fed infants is to be considered serious. In such cases it is necessary to act very energetically.

All cases require a suspension of feeding and a tea diet. This diet must be given for twelve to twenty-four hours, according to the nature of the case. In serious cases, and particularly if there is vomiting, washing of the intestine, followed by infusion, may be very useful. The therapeutic foods to be served after that are laroan milk, albumin milk, butter milk and breast milk. These therapeutic milks are given first without, or with only a slight addition of carbohydrates (1 to 2% of sugar, flour or gruel)

This is gradually increased until it reaches 5 to 7%. It is well not to use sugar exclusively, but replace it partly by flour and gruel. If the infant is of an age where part of his normal diet is made up of cereal and broth, it is advisable to begin serving this food again a few days after the beginning of treatment, but in reduced amounts at first. This treatment is continued for six to eight weeks, but in milder cases it may be possible to change to normal food after two to four weeks.—*Medizinische Klinik*, Berlin, January 5, 1922.

**PYLORIC STENOSIS IN CHILDREN.**—Karl Heusch states that the pathogenesis of each case of pyloric stenosis in infants, with persistent bile-free vomiting, lies in the combined action of nervous and anatomic factors. The anatomic changes may be due to primary or secondary alterations of the pylorus itself, or to their equivalents in the vicinity of the pylorus. Among the primary anatomic insults are: (1) Congenital stenosis of the pylorus. In most new-born infants there exists a relative thickening of the pylorus, which disappears, as a rule, in older children. The pathologic persistence of this normally transient condition is the primary anatomic factor in the production of the disease. In connection with an abnormal local irritability of the infant stomach—the primary physiologic factor—a secondary hypertrophy of the annular muscle results, which is manifested by a thickening of the muscular coat and the tumor formation resulting therefrom. (2) Very rarely one encounters circumscribed tumor-like new growths in the wall of the pylorus, which have developed during embryonic life, and an accumulation of isolated cell-nests in the vicinity of the pylorus, designated as choristomas, which cause the persistent bile-free vomiting and, at autopsy, exhibit a secondary circular muscular hypertrophy. (3) Duodenal ulcer is a pathologic condition rarely found in infants which leads to secondary muscular hypertrophy, due to irritation. The lesion may be produced by a compression of the pylorus, by a dilated loop of intestine with abnormally long mesentery. (4) An especially unfortunate variety of persistent bile-free vomiting is caused by a high atresia or stricture of the duodenum.

The duodenal stenosis almost always affects the upper portion of the duodenum, between the pylorus and the papilla of Vater. In rare cases, when it is located below, admixture of bile to the vomitus is an important symptom. (5) There are also distant anatomic insults which may produce the clinical picture of spasm of the pylorus, by injuries to the vagus nerve. Such are: pressure upon the vagus from a diverticulum of the esophagus, or a burn of the esophagus due to the ingestion of lye, such as was found in one case of spasmophilia.

The primary anatomic insults provoke secondary spasms in early infancy, and the same clinical picture results, in spite of diverse primary causes. Sixty per cent. of the nervous affections of the pylorus occur in first-born infants. The hypersensibility of the motor nerves of the stomach is a pathologic condition of the first month of infancy; this disease very rarely occurs after the second month. The unstable condition of the gastric motility appears to cease about the sixth week.—*Zeitschrift für Kinderheilkunde*, Berlin, Dec. 10, 1921.

# THE HAHNEMANNIAN MONTHLY.

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DECEMBER, 1922

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MINUTES OF THE FIFTY-NINTH ANNUAL MEETING OF THE HOMEO-  
PATHIC MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA,  
HELD AT THE BERKSHIRE HOTEL, READING, PA.,  
SEPTEMBER 26, 27, 28, 1922

TUESDAY, SEPTEMBER 26

MORNING SESSION

THE Fifty-ninth Annual Meeting of the Society was called to order by the President, Dr. Clarence Bartlett, of Philadelphia, at 10.30 A. M.

An invocation was delivered by the Rev. Warren Tiel, D.D., of Reading.

The program was, on motion, adopted as printed.

The President of the Society then delivered the Annual Address.\* In the absence of the First and Second Vice-Presidents the chair was occupied during his address by Dr. Robert L. Piper, of Tyrone, who, on the conclusion of the address, appointed as a committee on the same the following: Drs. John C. Calhoun, of Pittsburgh; David C. Kline, of Reading, and William C. Seitz, of Glen Rock.

Dr. Bartlett then introduced the Hon. John K. Stauffer, Mayor of Reading, who delivered the Address of Welcome, in which he said that, being a newspaper man, he had been particularly interested by Dr. Bartlett's allusions to the press, and in the hope he had expressed that there would be more co-operation between newspaper men and the medical fraternity.

Mayor Stauffer said that if the doctors would try to understand the representatives of the press as thoroughly as they tried to understand the doctors, this co-operation could be secured. From his experience, he thought that the doctors

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\*See October issue, page 577.

were not sufficiently impressed with the fact that newspaper men were not doctors, and must have explained to them things that would be clear to other physicians, if they wanted these things to reach the public. While the doctor was always talking of his own profession, the newspaper man must be ready to respond to any call. He might be at a medical meeting at one time, at an industrial convention the next, and then at a cattle dealers' association; and was expected to understand what they all were talking about. Unless the doctors took pains to make the matters they wished brought to the attention of the public plain, the newspaper men could not be blamed if they did not place them before the people properly. He then referred to the subject of life extension, which Dr. Bartlett had mentioned in his address, and said that it was an item of tremendous interest to the public. A man who had formerly lived in Reading, and had taken up one business after another, and made a success of each, had become engaged in life extension work. This man had stated that there was no reason why people should not live to be two hundred years of age. The Mayor said that the doctors would have to decide how much chance there was of this in the immediate future; but personally, he did not believe that it would occur very soon. He thought, however, that Dr. Bartlett had opened up a line of thought that had attracted the attention of the Mayor, as a former newspaper man.

The Mayor then explained how Reading had solved the unemployment problem by transferring workers from one industry to another. After a few further remarks regarding the pleasures of the city, etc., Mayor Stauffer expressed the hope that the understanding between the press and the medical profession would grow and increase. He then wound up his remarks by relating a funny story.

In making the Response to the Address of Welcome, Dr. Bartlett said that inasmuch as the Mayor had agreed with so many things that he had said he, quite naturally, thought that the Mayor was the most sensible man that he had ever met. Dr. Bartlett stated that the Society had been at Reading once or twice before, and that the last meeting there had been so successful that he expected this one to be even more so. He then thanked the Mayor for his kind references and his most excellent speech.

The Secretary reported that the minutes of the preceding meeting had been published in *THE HAHNEMANNIAN MONTHLY*, but that they could now be read if it was so desired. On motion, the reading of the minutes was dispensed with.

The Treasurer then presented her report, which was, on motion, referred to the Auditing Committee. The report showed a balance on hand of \$4,108.07. After the reading of the report, the Treasurer, Dr. Ella D. Goff, of Pittsburgh, expressed her appreciation of the uniform courtesy of the members of the Society during her tenure of office and announced that she did not wish to be a candidate for re-election at the coming election of officers. On motion, the Resolution Committee was directed to draft a suitable minute on the retirement of the Treasurer and report the same to the Society for action.

The President expressed regret that the Society was to lose the services of Dr. Goff as Treasurer, and said that during the fifty-nine years of the existence of the Society there had been but two treasurers—Dr. John F. Cooper and Dr. Goff.

The President appointed as a Committee on Resolutions the following: Drs. Harry S. Nicholson, of Pittsburgh; William M. Hillegas, of Philadelphia, and Paul H. Gerhardt, of Reading.

The President appointed as an Auditing Committee the following: Drs. Robert L. Piper, of Tyrone; G. Morris Golden, of Philadelphia, and Anna Johnston, of Pittsburgh.

The Report of the Trustees was then called for, but was postponed.

The report of the Committee on Legislation was presented as follows:

*Mr. President and Members of the Homœopathic Society of Pennsylvania:*

As Chairman of your Committee on Legislation, I wish to submit the following report: The year 1922 being the intervening year between sessions of our State Legislature, the same activity from your committee was not demanded as during the year when our Legislature is in session; however, we have found work that needed our attention and have endeavored to keep in touch with things that have been of vital interest to the medical profession.

Meetings of the Medical Legislative Conference have been held when deemed necessary. On February 24th, a meeting was held at the Hotel Rittenhouse, Philadelphia, and it was at that meeting that Dr. F. L. VanSickle presented to the Conference a proposed bill which was prepared by the Legislative Reference Bureau in Harrisburg. This bill is intended to be a codification of all bills now existing which pertain to the licensing of physicians, dentists, chemists, op-

tometrists, and all others, including the different cults or anyone who has anything to do pertaining to the treatment of the human body.

This bill has been carefully considered by your representatives, and while not by any means up to our ideal, we hope before the Legislature convenes to have some bill like it, or near to it, that will fill the requirements which will place all schools or cults on an educational basis that will be satisfactory to each branch of the medical profession and insure the public against incompetents of any description.

Let it be understood at the outset that it is not the desire of anyone to interfere with the present Board of Examiners, where they are working satisfactorily, or to eliminate anything that is for the public welfare; but it is the desire of your committee to place within the reach of the public everything that is of value in the treatment of abnormal conditions of the human body, by men and women who shall present satisfactory evidence of educational training, sufficient to enable them to intelligently treat the human body and render to the people that which they seek and confidently expect to find.

While it is the desire and will be the effort of your Legislative Committee to do all that lies within their power to dignify and unify the different schools and cults, yet it seems to me that a great part of this work must rest with the medical colleges. Two years ago I expressed to the Dean of one of our foremost medical colleges, that the sooner osteopathy and chiropractic are taught in our modern medical colleges, the better it would be for the profession and the public at large. It is not for us to condemn anything pertaining to the treatment of disease until it has been thoroughly investigated by unbiased minds.

An article which was written by Channing Frothingham, of Boston, and published in the *Atlantic Monthly* of July of this year, discussed with great fairness and candor this important question. His article has been discussed in an editorial published in the *Journal of the American Institute of Homœopathy*, and endorses absolutely the position taken by Dr. Channing Frothingham. Let us not, as a school, representing a branch in the medical structure, condemn the practice of any cult, without according to the exponents of such a fair and unbiased investigation. It was this unfairness and professional ostracism that forced Hahnemann, more than a hundred years ago, to found a new school of medicine.

The discoveries of this great physician marked him among his colleagues as a revolutionist. It was not his desire to create a new school, but to reveal fallacies and uncover and

bring to light scientific facts and show to the world things as they really are, and not as they were then supposed to be. No school contains all there is in medicine, but to the homœopathic physician the definition as outlined by the American Institute of Homœopathy, is that a homœopathic physician is one who has added to his knowledge of medicine the special knowledge of homœopathic medicine and that all that pertains to the medical profession is his by inheritance and by right.

What is true in this regard to members of our school should be equally true to all physicians. If our medical colleges, and especially our homœopathic colleges, could take into its curriculum the additional instruction in osteopathy and chiropractic, and take out of each branch all that there is of practical value in the treatment of the human body, I feel that it would be advancing a long step towards placing each branch where it belongs in the medical profession and rendering unto the public service which will be duly appreciated.

The present requirements and exactions of our State Boards make it difficult for young men to enter the medical profession, but at the same time throw wide open the doors to admit, almost without restraint, followers of certain cults, no matter how uneducated or untrained they are, to understand and treat the human body. Under such conditions our State is being thronged with what we consider incompetents. It has been said that one institution in the United States is turning out each year more graduates than all of the legally recognized schools of medicine in the United States put together.

We have in our medical profession certain specialties, such as Electrotherapy, Roentgenology, Radiology, Mechanotherapy, that are taught to the students before graduation; why, then, not include osteopathy and chiropractic, so that the graduates in medicine will have a working and intelligent knowledge of the value and the limitation of each one; then, after receiving the medical degree, if one is desirous of following any one as a special line, he is free to do so, as we can again revert to the definition of a physician, that all that pertains to the treatment of the sick is his by inheritance and by right.

I know that this proposition will not meet with the approval of my colleagues, but as a student of the different schools of medicine, I feel that it will be a master stroke by the teachers and professors in our medical institutions, if they would give this serious thought and adopt these principles. A few days ago, while discussing this subject with a prominent educator in Pennsylvania, he declared this principle to be undoubtedly the correct course to follow.



The discoveries of our therapeutic agents and the multiplication of safe and sane methods of treating disease, does not lessen the brilliancy of any of our past discoveries. Homœopathy is just as effectual and deserves the same appreciation as when first applied by Hahnemann and his early followers. We are all creatures of habit and are in danger of remaining in well worn ruts and too apt, as did our forefathers of seventy-five years ago, of condemning without hearing new methods of treatment.

Let us be alive to the demands of the time and to the advancement in the medical profession in whatever will be for the good of our fellow man. Professional sectarianism can be and should be absolutely eliminated, and in this elimination should not rob anyone of any school of their special prerogatives.

As for the homœopathic school of medicine what can be said? A hundred years have passed since its discovery. Is the progress satisfactory to all of you? Are the number of graduates from our homœopathic institutions as flattering as you desire? Are the number of medical colleges that are graduating homœopathic physicians coming up to your ideals when one homœopathic medical college after another is closing its doors? Does it mean that we are making progress, or is it gradually fading? Will it be revived or will it gradually sink into oblivion and be relegated to the medical scrap heap?

Where does the fault lie? Surely, it is not that our *materia medica* is not dependable! It is just as good as it ever was and none better. Does the fault lie in the teaching, or does it lie with every individual physician? Our school is not the only one who have a decrease in their numbers, but while the number of graduates of medicine are insufficient to fill the need of our increase in population, the shortage is made up by men and women less qualified, who find an easier entrance into the medical fraternity through unguarded entrances and are quick and eager to grasp their opportunity.

Your Medical Legislative Conference is only an instrument in your hands representing the profession in trying to protect the public, through you, against poorly trained and incompetent men and women who, from mercenary motives, endeavor to treat the human ills without the proper or necessary preparation.

For several months the Conference has been working on the formation of a suitable bill to be placed before our next Legislature, that will bring about the results we hope for. At

present, there are three bills in their formation. Out of this we hope to bring a bill that will be satisfactory to all and place those who desire to treat the diseases of the human body on a foundation of equality. To accomplish this we must have your financial as well as your moral support. It is simply in your hands.

In the past year, beginning from January, 1922, the homœopaths of Pennsylvania contributed less than \$200.00. This has been quite a reduction from what we had before. Two years ago the State Society contributed \$500.00 for the benefit of legislation, and many county societies as well as individuals contributed liberally.

There are several vital issues coming up in the next session that will be of the greatest importance to the profession which it would not be well to speak of at this time, but we know the possibilities that confront us.

I would suggest that this Society make some provision for the support of the Conference and any suggestions or any requests from the State Society will be gladly received, and at all times your Conference stands ready to do the will, as far as it lies within its power, of the Homœopathic Medical Society of Pennsylvania, as well as the whole medical profession.

The report of the Committee on Membership was presented by the Chairman of the Committee, Dr. Wm. M. Hillegas, of Philadelphia. This report comprised a list of applicants for membership. The report was accepted and the names referred to the Censors.

In the absence of the Censors, the President appointed as Censors to serve until the arrival of the regular Censors the following: Drs. Geo. W. Hartman, of Harrisburg; Francois L. Hughes and Arthur Hartley, of Philadelphia.

The report of the Delegates to the American Institute of Homœopathy Congress of States was presented by Dr. John C. Calhoun, of Pittsburgh, Chairman of the Delegates:

I make this report, not from personal attendance, but from a careful study of the minutes of the meeting as published in the September issue of the *A. I. H. Journal*, this source being considered authentic.

First session called to order by President Upham, Tuesday, 9 A. M. The following States had delegates present: California, Colorado, Connecticut, Illinois, Indiana, Iowa, Kansas, Kentucky, Maryland, Massachusetts, Michigan, Minnesota, Nebraska, New Jersey, New York, Ohio, Oklahoma, Pennsylvania, Rhode Island, Texas, Virginia, Washington,

West Virginia, Wisconsin, District of Columbia. Total number of Societies, 25. Total delegates, 36. It is a known fact that not all the States paid their per capita, yet they were seated.

Most of this session was taken up by reading of reports. It may be interesting for you to know that there are but 3,732 members of the A. I. H.

SECOND SESSION, WEDNESDAY MORNING.—Called to order by the President. Little of interest was transacted at this session.

THIRD SESSION, THURSDAY MORNING.—Called to order by the President. Hill case discussed at length. Movement started to establish a post-graduate school. College report shows total number of students, 549; graduates, 62.

At the meeting of the entire body certain changes were made to the By-Laws. That which interests us most is Federation: Sect. I. Duties. No changes. Sect. II. Membership. Increased by making all officers members. This gives the three vice-presidents a seat, Board of Control, Board of Trustees and the past presidents of the A. I. H. Dues discontinued.

JOHN C. CALHOUN.

On motion, this report was accepted.

The report of the Editorial Committee of *THE HAHNEMANNIAN MONTHLY* was presented by Dr. Clarence Bartlett, of Philadelphia, Chairman of the Committee. This report showed the *JOURNAL* to be in good condition. On motion, the report was accepted.

The report of the Committee on Publicity was presented by Dr. Margaret Hassler, of Reading, chairman of the committee. This report recommended that the Society employ a publicity expert. The report was as follows:

Your chairman presents the following report on publicity to date: Between 800 and 900 invitations sent out to physicians' wives. Each week for the past month the local newspapers gave liberally of space regarding some phase or other of homœopathic activity and the coming State Meeting.

It is the aim of every convention to secure unlimited space and Associated Press recognition. Your chairman feels that the work of this committee should be placed upon a strictly business basis, with a specific sum set aside each year for the purpose of securing the services of a press expert, and with this object in view and to promote more completely the activities of this year's session of the Pennsylvania Homœopathic

State Society, a publicity expert will report from this floor the papers of the various bureaus.

MARGARET HASSLER,  
*Chairman of Publicity.*

The report was accepted and referred to the Resolutions Committee.

The report of the Exhibits Committee\* was presented by Dr. G. Morris Golden, of Philadelphia, chairman of the committee. This report showed a large number of exhibitors and a very business-like management. On motion, the report was accepted and the Committee given a vote of thanks.

The report from the local committees was presented by Dr. Paul H. Gerhardt, President of the Berks County Homœopathic Medical Society. On motion, this report was accepted.

The report from the Woman's Homœopathic League of Pennsylvania was read by the Secretary of the Society, no officers of the League being present. This report showed the League to be in a flourishing condition and doing good work. On motion, this report was accepted.

Since the inception of the Woman's Homœopathic League of Pennsylvania, fifteen students have been financially assisted.

The amount of money thus far expended for this purpose is one thousand and five hundred and forty-seven dollars, leaving a balance of five hundred and twelve dollars in bank.

At the last Annual Meeting at Bedford Springs, Pa., ten new members were enrolled and two reinstated.

On "Homœopathic Clinic Day," October 18th, the League planned to conduct a lead pencil sale throughout the entire State of Pennsylvania, the proceeds to be used for deserving students.

The amount realized was far beyond our expectations.

LYDIA M. A. GOLDSMITH,  
*Corresponding Secretary.*

The Necrologist, Dr. J. C. McCauley reported the following deaths up to September, 1922:

J. M. Beyer, Philadelphia.  
Francis W. Boyer, Pottsville.  
William C. Harmount, Pittsburgh.  
Joseph I. Heritage, Langhorne.  
Charles W. Karsner, Philadelphia.

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\*See News and Advertiser, October issue.

David W. Straub, Bethlehem.  
J. M. Walborn, Summit Hill.  
W. Wesley Wolfe, Pittsburgh.  
Charles F. Bingaman, Pittsburgh.  
Henry C. Chisholm, Huntingdon.  
Lewis H. Hendrixon, New Holland.  
David M. Roudabush, Williamsport.  
Howard L. Vail, Scranton.  
Robert K. Walter, Walter's Park.

Letters of resignation from membership in the Society were presented from the following members: Drs. Lewis E. McBride, of Franklin; Edgar M. Blew, of Allentown, and Donald MacFarlan, of Philadelphia. On motion, these resignations were accepted.

Action on proposed Amendments to the By-Laws was then called for, and the proposed amendments were read by the Secretary. These amendments having been proposed at the last annual meeting and printed in full in the notices of this meeting and the necessary quorum for amending the By-Laws being present, the proposed amendments were, on motion, adopted as printed.

ARTICLE III—Amend Section 1, so it shall read: This Society shall be composed of active, honorary and corresponding members and members on the United States Army, Navy and Public Health Service Roll.

ARTICLE III—Add Section 5, as follows: Any homœopathic physician holding a commission in the Medical Corps of the United States Army, Navy or Public Health Service and maintaining a permanent or temporary residence in the State of Pennsylvania may, by a two-thirds vote of the members present at any annual meeting, be elected to the United States Army, Navy and Public Health Service Roll; provided that the said proposal shall have been approved by the Board of Trustees. Such members shall have all the rights and privileges of membership except the right to vote and to hold office and shall be exempt from dues.

ARTICLE IX—Add the following paragraphs: A Committee on Exhibits to consist of three members who shall serve for five years. This committee shall have entire charge of procuring exhibits and making arrangements for the same; they shall be empowered to make contracts, receive money as is required for their expenses and shall turn over to the Treasurer of the Society any unexpended balances.

A Committee on Resolutions to consist of three members appointed annually at the annual meeting. It shall be the

duty of this committee to prepare resolutions and present the same to the Society for action. All resolutions presented to the Society except by this committee must be referred to the committee for their consideration before action on the same is taken by the Society. The committee after considering such resolutions shall report them to the Society with their recommendation.

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The Annual Report of the Superintendent of the Allentown State Homœopathic Hospital was presented by Dr. Henry I. Klopp, of Allentown. This report showed the institution to be in the very best of condition. On motion, the report was accepted.

#### TENTH ANNUAL REPORT OF THE HOMŒOPATHIC STATE HOSPITAL, ALLENTOWN, PA.

The Tenth Annual Report of the Homœopathic State Hospital to the Homœopathic Medical Society of the State of Pennsylvania, statistically covering the period from June 1, 1921, to May 31, 1922, is hereby respectfully submitted:

The activities of the hospital within the past year have been progressive and constructive from the viewpoint of efficiency and economy, the general development of the institution, as regards repairs and up-keep, and above all, the matter of care and treatment of patients.

From the therapy standpoint, while the single indicated homœopathic remedy is the sheet-anchor, we have a general policy that anything that will help restore our patient to mental and physical health shall be applied in the treatment. In doing so, each case is considered as an individual, the treatment is outlined following a thorough physical, neurological and mental examination, in addition to laboratory findings; all these in conjunction with X-ray, electro-therapeutic and pathological laboratories are essential.

Within the past year the laboratory has been reorganized under a competent pathologist, considerable additional equipment has been placed, this particularly to enable us to enter the newer fields of blood analytical chemistry, and we hope eventually to include an equipment covering basal metabolism. In this direction there is full co-operation of the pathologist and the medical clinicians in diagnosis and treatment. It is our policy to include full blood and urine analysis and examination of the cerebral spinal fluid; by this means the clinical is correlated with the laboratory findings and much informa-

tion is obtained. It is customary to make lumbar punctures only when they are indicated for mental diagnosis or in the course of anti-luetic treatment. In these cases we have observed much benefit from the withdrawal of the spinal fluid in specific and suspected specific cases, as well as in greatly disturbed patients. In the majority of cases where the mental disease is due to syphilis, we institute anti-specific treatment, not with the hope of cure—for they are usually past that possibility when they come to us, but to bring about a remission of symptoms so that many can be more comfortably cared for and, in some instances, for a period at least, they are able to again enjoy home life.

We give thought to the study of the endocrines and prescribing of the single glandular products upon the same basis as the single homœopathic remedy. We plan to check our therapy with blood and urine quantitative analyses before and after administration, in the hope of learning whether we are dealing with poly- or mono-glandular disfunction.

As already implied, we believe there is value in all therapy, as for example hydro-therapy is an important adjunct in the treatment of our mental patients—particularly in the form of continuous-flowing tub baths for cases of excitement, restlessness and agitation.

We have been paying considerable attention to forms of energy obtained by means of electricity; most prominent is the Roentgen-ray, less in the limelight is the ultra-violet ray. The degree of activity in this field has been carried on since 1913, and the acquisition of new equipment a year and a half ago has stimulated interest. The following figures show the work done within a period of eleven months of our hospital fiscal year ending May 31, 1922:

- 276 X-ray pictures.
- 122 Dental films.
- 243 Fluoroscopic examinations.

Treatments:

- 56 X-ray.
- 30 Leucodescent Light.
- 6 Morse Wave (Sinusoidal).
- 7 Galvanic.
- 10 Faradic.
- 210 Ultra-Violet.
- 36 High Frequency.

All under the direction of the Assistant Superintendent, Dr. Harry F. Hoffman. He has also been examining a number of our patients by means of the fluoroscope, doing this at about

the same time they are given their annual physical examinations—in this way compares the findings; it is our intention to do this with all cases as time permits. The routine physical chest examination is often unsatisfactory, due to poor co-operation of the patient; in such the X-ray, either fluoroscopic or radiogram, or both, is of decided value. This procedure is a check on the accuracy of physical examinations made by various physicians. The Roentgen-ray, therefore, receives the greatest interest because of its usefulness along the lines of diagnosis, research and therapeutics.

Recently we have developed considerable interest in ultra-violet treatment. By means of this form of energy wounds can be disinfected and injuries made to heal with astonishing rapidity; various skin lesions react to the ultra-violet when other treatments have failed. We are also using this modality for the treatment of tuberculosis, but have not used it sufficiently to warrant any statement on this point. Other than our homœopathic remedy we do not have any one particular pet therapy, although, as implied, we believe in the use of those mentioned as adjuncts to other therapies—be they surgical, orificial or short-circuiting, or following focal infections, and, therefore, do not intend to overlook anything that can be accomplished, even by the work of a competent dental surgeon. Equipment for the latter has been completely replaced within the past year.

The movement of population has been as follows: On June 1, 1921, there remained under care and treatment in the hospital, including patients absent on furlough, 1,277 patients, 623 men and 654 women. Within the hospital year ending May 31, 1922, 392 cases—217 men and 175 women were admitted; making a total number under treatment for the year, 1,669—840 men and 829 women. Of the 392 admitted, 304 were first admissions and 29 were voluntary without commitment. The daily average number of all patients actually in the institution during the year was 1,201—592 men and 609 women.

The total discharges within the hospital year numbered 361—190 men and 171 women. Of this number 58 were recorded as Recovered, 96 Improved, 27 Unimproved, 5 without Psychosis, 24 transferred to other institutions for Mental Diseases, and 151 died during the year. In addition to the 361 direct discharges, 95 appeared on our books as connected although absent from the hospital on furlough. At the end of the hospital year, May 31, 1922, there remained on the books of the institution 1,308 patients—650 men and 658 women.

With the widened scope of neuro-psychiatry, the hospital



physician finds himself engaged in activities beyond institution boundaries. Important as are our State Hospitals for care and treatment of patients, extra-institutional activities cannot be minimized; in no better way than by such community service can prophylaxis in mental diseases be promoted. Neuro-psychiatric clinics are becoming more and more generally recognized as necessary and natural adjuncts to hospitals for mental patients. This institution has been conducting such clinics since 1914; first in the city of Easton, later in Bethlehem and Allentown; doing so in connection with the various charity organizations, such as the Social Service League, Family Welfare and Associated Charities. During the past five months our clinics have been reorganized and at present are conducted in connection with the General Hospitals in the respective cities. As a result, the scope has been greatly enlarged and neuro-psychiatric cases in the hospitals are referred to the clinics for examination, diagnosis and recommendation. These clinics are not intended as receiving stations for our hospitals; instead they afford early examination and consultation which in many cases means cure or readjustment and avoidance of institution care otherwise necessitated. It is our intention that furloughed patients may report and receive assistance necessary to enable them to remain longer or permanently out of the hospital. In this way neuro-psychiatric advice becomes available to the general public, the courts, the various local charitable organizations and the schools. General Hospitals, therefore, because of laboratory facilities and opportunities for consulting with other specialists, offer the best quarters for mental clinics.

It is our intention at an early date to organize a Psychiatric Social Service Department in the hospital so as to make a systematic effort to rehabilitate the patient; in other words, to get suitable patients out of the hospital and back to the community. Until within the past two months we have been able to accept all requests made of us for admission. We are becoming over-crowded, especially upon the women's service. Through a Social Service organization we hope to be able to relieve this condition, in part, at least, by the release of patients possibly earlier than otherwise and returning them to their respective communities—under careful supervision, by investigating home conditions, possibilities for work and other phases of rehabilitation. Ever-increasing demands of community service in this way will be an additional adjunct.

From the constructive viewpoint, the last Legislature gave us an appropriation of \$90,000. This proved sufficient to erect a duplicate of our Psychiatric Reception Building, and work on

this structure is progressing satisfactorily. When completed we will have suitable accommodations and where more active therapy can be carried out for our men patients; eventually we hope to have a complete psychiatric unit. To accomplish this it will be necessary to have a Laboratory Building, also a Convalescent Building for both sexes. We hope the 1923 session of the Legislature will find means available whereby appropriations will be made the hospital for such requests as have been prepared and approved by the Board of Trustees for additional new buildings, alterations, equipment and laboratory apparatus.

HENRY I. KLOPP,

*Superintendent and Physician-in-Chief.*

The morning session adjourned at 12.20 P. M.

## TUESDAY, SEPTEMBER 26

### AFTERNOON SESSION

A meeting of the Society was called to order by the President at 2 P. M., and immediately turned over to the Chairman of the Section of Surgery, Gynecology and Obstetrics.

## TUESDAY, SEPTEMBER 26

### EVENING SESSION\*

A meeting of the Society was called to order by the President at 8 P. M., and immediately turned over to the Chairman of the Section of Sanitary Science and Preventive Medicine.

## WEDNESDAY, SEPTEMBER 27

### MORNING SESSION

A meeting of the Society was called to order by the President at 9 A. M.

The report of the Auditing Committee was presented by the Chairman, Dr. Robert L. Piper, of Tyrone, and certified that the accounts of the Treasurer had been examined and found to be correct. On motion, this report was accepted.

The Temporary Board of Censors reported that they had approved all the applications submitted with one exception.

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\*Smoker following meeting.

On motion, this report was accepted and the applicants approved by the Board declared elected to membership.

Elected to membership:

Bier, Paul D., Pittsburgh.  
Boone, Geo. H., Pottsville.  
Dean, Horace B., Harrisburg.  
Dodies, Louis A., Philadelphia.  
Erdman, Thomas F., Reading.  
Freese, Annie E., Allentown.  
Gallagher, Michael F., Philadelphia.  
Geckeler, Edwin O., Philadelphia.  
Geckeler, Geo. D., Jenkintown.  
Hale, Matthew J., Philadelphia.  
Hartman, Samuel A., Philadelphia.  
Kitchen, E. Paul, Philadelphia.  
Marbaker, A. W., Philadelphia.  
Mast, John D., Reamstown.  
Meng, Frederick Wm., Philadelphia.  
Neff, Geo. R., Philadelphia.  
Phillips, Claude B., Cape May, N. J.  
Richter, W. G., Allentown.  
Roberts, Sarah P., Erie.  
Roman, Desiderio A., Philadelphia.  
Shallcross, Joseph N., Philadelphia.  
Shaw, Harold B., Philadelphia.  
Stitzel, Elwood W., Hollidaysburg.  
Strohm, Lloyd E., Philadelphia.  
Super, Alfred H., Allentown.  
Tompkins, James F., Philadelphia.  
Weaver, Grant B., Lancaster.

The meeting was then turned over to the Chairman of the Section of Pathology.

The meeting of the above section was interrupted at 11 A. M. for nomination of officers.

A resignation from the office of Trustee was presented by Dr. John C. Calhoun, of Pittsburgh. On motion, this resignation was accepted.

The President then called for nomination for officers, when the following nominations were made:

President—John C. Calhoun, of Pittsburgh; nominated by George B. Moreland, of Pittsburgh.

First Vice-President—Jos. V. F. Clay, of Philadelphia; nominated by John J. McKenna, of Philadelphia.

Second Vice-President—Isaiah L. Moyer, of Columbia; nominated by Robert L. Piper, of Tyrone.

Secretary—J. Miller Kenworthy, of Philadelphia; nominated by Geo. A. Hopp, of Philadelphia.

Treasurer—Anna Johnston, of Pittsburgh; nominated by Harry S. Nicholson, of Pittsburgh.

Necrologist—John C. McCauley, of Rochester; nominated by J. Howard Swick, of Beaver Falls.

Censor—Malachi W. Sloan, of Philadelphia; nominated by Wm. M. Hillegas, of Philadelphia.

Trustee (to serve one year)—Horace E. Kistler, of Johnstown; nominated by Edw. M. Gramm, of Philadelphia.

Trustees (to serve three years)—Clarence Bartlett, of Philadelphia; nominated by Harry S. Nicholson, of Pittsburgh. Harry S. Nicholson, of Pittsburgh; nominated by Horace G. Carmalt, of Pittsburgh. Homer H. Snyder, of Scranton; nominated by Robert V. White, of Scranton. Fred M. E. Howell, of Reading; nominated by Henry F. Schantz, of Reading.

The foregoing nominations were regularly seconded and the nominations for the various offices were regularly closed by motion, seconded and carried.

### WEDNESDAY, SEPTEMBER 27

#### AFTERNOON SESSION

A meeting of the Society was called to order by the President at 2 P. M., and immediately turned over to the Chairman of the Section of Materia Medica and Homœopathic Institutes.

### WEDNESDAY, SEPTEMBER 27

#### EVENING SESSION

A banquet for the members and ladies was held in the Berkshire Hotel at 7 P. M., Dr. Fred M. E. Howell, of Reading, acting as toastmaster. Banquet followed by a dance.

### THURSDAY, SEPTEMBER 28

#### MORNING SESSION

A meeting of the Society was called to order by the President at 9 A. M.

The President appointed as Tellers to conduct the elec-

tion at 11 A. M. the following: Drs. James T. Seitz, of Glen Rock; Ralph E. Pilgram, of Harrisburg, and Trimble Pratt, of Media.

The report\* of the Committee on the President's Address was presented by Dr. John C. Calhoun, of Pittsburgh, Chairman of the committee. The committee recommended that the Society take action on the two following matters which were taken up at length in the President's Address: *a.* Life Extension Examinations; *b.* The Endowment of the Chair of Anatomy in the Hahnemann Medical College of Philadelphia in the name of Rufus B. Weaver.

On motion, this report was accepted.

On motion, the President was directed to send a delegate to the meeting of the Pennsylvania State Medical Society in Scranton during the coming week, to present to the officers of that Society the views of this Society in the matter of Life Extension examinations.

The President appointed for this purpose Dr. Robert V. White, of Scranton.

On motion, the President was directed to appoint a member of this Society to co-operate with the Alumni Committee of Hahnemann Medical College of Philadelphia, in the matter of the endowment of the Chair of Anatomy in that College in the name of Rufus B. Weaver.

The President appointed for this purpose Dr. John C. Calhoun, of Pittsburgh.

A report was presented by Dr. John C. Calhoun, of Pittsburgh, from a committee appointed by the Trustees to consider the matter of an official automobile emblem for the Society. This committee reported their belief that the matter should be considered by the Society. No action was taken.

The meeting was then turned over to the Chairman of the Section of Clinical Medicine and Pediatrics.

The meeting of the above section was interrupted at 11 A. M. for the purpose of holding an election of officers.

The report of the Committee on Resolutions was presented by the chairman of the committee, Dr. Harry S. Nicholson, of Pittsburgh, and was as follows:

WHEREAS, Dr. Ella D. Goff, of Pittsburgh, having served this Society continuously since 1904 as Treasurer, faithfully and painstakingly performing the exacting duties of this office, and,

WHEREAS, Dr. Ella D. Goff has decided not to continue further in this office,

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\*See October issue, page 587.

*Therefore, be it Resolved*, That the Society extends to Ella D. Goff its sincere regrets at her retirement as Treasurer and further, that the Society tender to her its sincere appreciation of the many years she has given so willingly to Society work; and further, that the Society wishes her many years of life and health.

*Resolved*, That in the future the Society employ a skilled newspaper man to be engaged by the Publicity Committee, and to work under its direction, to arrange for proper newspaper publicity for the annual meetings of the Society, the expenses of such publicity to be provided by the Board of Trustees.

*Resolved*, That this Society extends to the members of the Berks County Homœopathic Medical Society its thanks for their courteous and generous hospitality and entertainment as our hosts at this meeting.

*Resolved*, That this Society extends to the retiring officers and chairmen of the various bureaus and committees its thanks for their arduous work during the year which has culminated in the splendid and successful meeting just drawing to a close.

In reference to the report of the Committee on Legislation, presented by Dr. Krusen and referred to the Resolutions Committee, this committee recommended that this matter be referred to the Board of Trustees for consideration and action.

(Signed) HARRY S. NICHOLSON, *Chairman*.  
WILLIAM M. HILLEGAS,  
PAUL GERHARDT.

On motion, this report was accepted and the resolutions and recommendations adopted.

The President then declared that Election of Officers was in order and the Secretary read the list of nominations. The following were elected:

President—Dr. John C. Calhoun, of Pittsburgh.  
First Vice-President—Dr. Jos. V. F. Clay, of Philadelphia.  
Second Vice-President—Dr. Isaiah L. Moyer, Columbia.  
Secretary—Dr. J. Miller Kenworthy, of Philadelphia.  
Treasurer—Dr. Anna Johnston, of Pittsburgh.  
Necrologist—Dr. John C. McCauley, of Rochester.  
Censor (3 years)—Dr. Malachi W. Sloan, of Phila.  
Trustee (1 year)—Dr. Horace E. Kistler, of Johnstown.  
Trustees (3 years)—Drs. Harry S. Nicholson, of Pittsburgh; Fred M. E. Howell, of Reading; Clarence Bartlett, of Philadelphia.

THURSDAY, SEPTEMBER 28

AFTERNOON SESSION

A meeting of the Society was called to order by the President at 2 P. M. and immediately turned over to the Chairman of the Section of Ophthalmology, Otology and Laryngology.

On the conclusion of this section the chair was returned to the President who, there being no further business, declared the Fifty-ninth Annual Meeting adjourned at 5 P. M.

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**A FEW THOUGHTS ON HAHNEMANN'S MATERIA MEDICA  
IN THE LIGHT OF PRESENT DAY PHYSIOLOGY**

AUG. KORNDORFER, M.D., PHILADELPHIA

(Read before the Homœopathic Medical Society of the State of Pennsylvania,  
September 27, 1922.)

IN presenting these thoughts for your earnest consideration I wish to note that the underlying motive has been the arousing of a renewed interest in our materia medica, as such; and the advancement of our knowledge as to its therapeutic application through a clearer conception of its symptomatic records.

Every true student of Hahnemann's life work must be impressed with the fact that Hahnemann's discoveries belong to the type which only genius gifted with divinely inspired prescience can produce. However, it is a well attested fact that too many would-be students read an author only to interpret his thoughts according to some preconceived theory or into their own limited vocabulary of expression; thus, not only beclouding the truth but often failing utterly to grasp either the meaning or intent of the author.

Such, indeed, have been common faults in students of the writings of that greatest of medical philosophers, Samuel Hahnemann, discoverer of the fundamental principle upon which depends the therapeutic application of drugs for the cure of disease; who devised and developed systematized drug provings; and who thirty-one years later, after eleven years of most exacting research, presented to the profession the revolutionizing results of his investigations into the nature of and curative treatment for, chronic forms of disease.

Hahnemann accomplished a work so stupendous and so

radically at variance with the then accepted theories, that but few were able to comprehend its significance, or willing to honestly investigate its merit or claims. None grasped its wonderful scope, its vastness, or its intrinsic worth to mankind and to science. Hahnemann's discoveries aroused intense opposition. His psora theory met with positive disbelief and open ridicule among disciples of Galen, and was viewed with doubt by many even of Hahnemann's early adherents. With certain reservations it was accepted by the majority of his followers, but only his most ardent and devoted disciples gave to it their unqualified support—faith, rather than demonstrable proof, was the foundation upon which such acceptance rested.

Two generations thus passed. Clinical verifications in abundance were manifest and sufficed for the mere practitioner, but science with laggard step had failed to keep pace with or find an interpretation of nature's language. Toward the dawn of the twentieth century, however, secrets hidden from the foundation of the world were, as with Aladdin's lamp, suddenly revealed. The law of similars; the potency of the infinitesimals; the immaterial dynamis as the potent force generating viable structural material; all emerged from their hiding and were made captive by man. The unknown became the known, the intangible became manifest, and the inscrutable processes of nature were revealed for the benefit of all mankind.

The goal of all science is the capacity for prediction. Pre-science, not guesswork, is the crucial test. This Hahnemann had indeed furnished, clinically, but science through its immutable laws must needs add its confirmation to complete the cycle. From this source we now find his views as to the importance of infinitesimals; the infinite divisibility of matter and the potency of its dynamic factor, Hahnemann's "hitherto unknown force" have come to their own and laboratory workers the world over are vieing with one another in the endeavor to delve still further into the rarefied atmosphere of the infinitesimals with most astounding results.

The dynamic forces of nature are proved verities, and have been harnessed and compelled to do man's bidding. Great and powerful beyond description, they have enabled man to overcome space and time, girdling the earth without wire or rail that its remotest confines may be brought into our very presence.



The incredulity of the past presents itself as but the badge of ignorance and sign of impotence—while the broad vistas of scientific research have been opened to every true student of nature.

Surely, these latter day revelations of the forces of nature, especially in their relation to physiology, emphasize to a remarkable degree the startling prescience manifest in Hahnemann's discovery of that "hitherto unknown force" which he utilized in the dynamization of drugs for therapeutic use; and, in his views of the life principle upon which rested his philosophy of living-nature in health as well as in disease. Thus was opened up practically the whole question of infinitesimals and their relation to the activating dynamis.

Hering frequently remarked: "The *materia medica pura* not only leads to a better knowledge of drug action but ultimately will lead to a new physiology and that in turn will develop a new and true pathology." A prophecy realized to-day through the astounding revelations in both physiology and pathology, especially in the field of endocrine activities so ably portrayed by many of our leading endocrinologists who have given us accurate symptomatic pictures of definite physiologic facts, instead of the hitherto theoretic fancies or hypothetical interpretations of the *phenomenæ* of nature.

The endocrine system has opened to physiologist, pathologist and therapist a wide field for exploration and use. The vital importance of internal secretions has been abundantly proved, and the far-reaching influence exerted through the nervous inter-relations between the various members is quite manifest. In addition, the marked psychic effects wrought through, as well as upon these organs must be recognized.

The endocrine syndromes have been fairly well established and beginnings may now advantageously be made in their therapeutic application.

As every toxin or drug capable of exciting the functional activities of the endocrines doubtless is carried by the leucocytes and in the blood plasma, through the capillaries of the pituitary body, thereby exciting a train of reactions within the endocrine system necessary to the neutralization of such toxins, we may reasonably assume that the symptomatic indications presented by the well-proved drug, will furnish the most logical mode of selection of the therapeutic agent—one capable of

arousing the physiologic activities necessary to the establishment of normal functioning, *i. e.*, health.

Here we must note the intimate physiologic relations between the pituitary body, the adrenals and the thyro-parathyroid apparatus; also, though to a lesser degree between these organs and the liver, spleen, ovaries and testicles, all of which are important in the interpretation and correlation of the various symptoms occurring in any given case of disease.

Especially also note that knowledge of the early evidences of endocrine change should put the physician on his guard, as such changes form an index of possible or even probable abnormal conditions or complications that may arise; and which he should be prepared to forestall or to meet and combat.

Mental peculiarities or characteristics upon which Hahnemann laid such stress and which are so marked in endocrine reactions, as well as physical tendencies thus emphasized, must prove an aid not only to diagnosis and prognosis but when symptomatically understood and correctly correlated must also prove an aid to the selection of the true similimum.

Berman says: "The determination of endocrine type and tendencies, the prediction of future personality during childhood is one of the developments confidently to be looked for, as our knowledge of the internal secretions will grow. The possibilities of control loom as one of the most magnificent promises of science."

Here let me add, our provers have furnished much in confirmation of this thought, in the symptomatic revelations of our well attested remedies in their relation to the endocrine personalities.

Stimulation of the adreno-thyroid center in the pituitary by any toxic, increases the production of adrenalin, which in the lungs is converted into adrenoxidase, and which in turn correspondingly enhances oxidation, thereby increasing the functional activity of all tissues. Among these tissues are: first, those that produce phagocytes (lymphatic structures mainly) thus causing leucocytosis, and secondly, the spleen and pancreas which jointly produce a trypsin-like cytase. This substance being secreted into the splenic and portal veins is taken up therein by the newly created phagocytes and stored in the perinuclear vacuoles. The cells, after traversing the liver, enter the general circulation and carry on their function as scavengers, *i. e.*, ingesting and digesting the pathogenic sub-

stances or the bacteria whose toxins had excited or stimulated the adreno-thyroid center—the sentinel, as it were, whose mission is to start the defensive reactions.

According to Sajous, that most indefatigable investigator of the internal secretions, the secretions of the thyroid and parathyroids jointly form the opsonin and agglutinin of the blood. The adrenal system (pituitary, adrenals and thyroid apparatus) constituting the immunizing mechanism of the body. Adrenalin representing Ehrlich's amboceptor; Trypsin Ehrlich's complement; the spleen and the leucocytes the nucleoproteid; and the thyroid and parathyroid secretions Wright's opsonins. In answer to the question: What bearing has our knowledge of the action of the endocrines upon the curative treatment of disease by drugs? I would suggest as one of the earliest results, the better understanding of the dual action of drugs, as emphasized in a paper that I presented to this Society some years ago. It is an assured fact that the action of any drug when carried beyond a given point is followed by a reaction characterized by well marked antithetical symptoms. Again, when the innervation of an endocrine organ becomes perverted, it fails to normally respond to a given stimulus in either quantity, quality or kind of action, with a resultant plus, minus or dys effect.

Every noxious influence, drug or other, to which our dynamic life principle is susceptible will tend to develop unfavorable endocrine reactions, causing suffering and distress of mind or body or both, *i. e.*, disease.

As already noted the thyroid, adrenals and pancreas *triad* is well known and its functions have been quite exhaustively studied. Less frequently is heed given to the fact that "the adrenals are intimately associated with the pancreas. The pancreas being intimately associated with digestion necessarily influences sugar metabolism and liver function." Again, the pituitary is associated functionally with the pancreas and liver by way of the nerve path from the center in the posterior pituitary and the spinal system. The adrenalin carried to the liver by way of the hepatic artery supplies the chemical energy which initiates and sustains all reactions in the hepatic lobule that require oxygen—thus burning up, or oxidizing waste and toxic material.

To mention just a few more of the valuable additions to our knowledge upon which may be based useful remedial measures, we may note that the growth of the brain is pre-

sided over by the adrenal cortex, the thyroid, the thymus and the pituitary. The development of the skeleton is dependent upon the utilization of food lime—here we find the thymus, which is governed through the pituitary, an important factor in early life, whereas later the thyroid, the interstitial cells and adrenals assume control. Again, the teeth reflect the beneficial action of the thyroid in their pearly, glistening appearance, especially if they are small and regular in form. On the other hand pituitary teeth are large, square and irregular with prominence of the middle incisors. Milky white, thin and translucent teeth with scalloped or crescentic grinding edge, show the thymus type; whereas the adrenal type are well developed in shape and position and are somewhat yellowish in color. Another feature worthy of consideration rests in the fact that “proper balance between the thymus and pituitary is essential to the perfect eruption of both milk and permanent teeth.” “Thyroid and adrenal balance determines the resistance to decay, especially of the molars.”

These few illustrations will suffice to show the wide field of influence exerted by the endocrines and especially the important role of the pituitary in its action upon and through the various endocrine glands, binding in harmonious co-ordination the mental, moral and physical elements, together with the life principle, giving meaning to many important symptoms. Just here I would emphasize the thought that with such better knowledge of the physiologic basis of given symptoms we will be better fitted to accurately adapt the true similitum to any given case.

The disturbance of any one endocrine element is sufficient to develop disease, viz., a distuning of the dynamic or life principle.

The foregoing bears evidence to the importance of the endocrinous constitutional manifestations, as well as to indicate in the types thus established the distinct characteristics pointing to the homœopathic agents upon which we may rely for the re-establishment of normal endocrinous action.

In the first volume of the *Chronic Diseases*, Hahnemann noted a long list of symptoms that he attributed to a constitutional diseased state which he traced through various mutations during past centuries and in which he recognized mental and physical symptoms as tangible evidences of specific dynamic changes sequent upon suppression of some external manifestations of a foregoing diseased state.

A careful study of these symptoms will reveal the fact stated in a paper, "Psora vs. Hypothyroidia," which I presented before this Society some years ago, that they depend largely upon what today is recognized as a disturbance of some element or elements of the endocrine system. In fact, practically all the symptoms there noted by Hahnemann find their counterpart in the symptoms attributed by our foremost endocrinologists to faulty functioning of these glands—especially the thyroid and the adrenals.

While at first glance we may ask, what does all this add to the development of greater accuracy in prescribing for the sick, you will, on fuller consideration, agree that it will aid not only in acquiring a better knowledge of disease, but in addition will render possible a more determinate selection of the assured similimum.

Every established fact in physiology is a positive gain to pathology in so far as it may make possible a better understanding of those aberrations we call disease; thus enabling the physician to interpret and correctly associate the more obscure symptoms, thereby rendering possible a more definitive and intelligent understanding of disease, a more accurate selection of the curative agent, and more scientific dosage in the individual case.

A study of more than two hundred of our proved remedies has revealed not only the manifest relation between the drug and endocrine reactions, but in addition the fact that each remedy develops varying complexes, which, if understood, will enable the therapist to differentiate more accurately the nearly related remedies as well as the better dosage to be employed. As an instance, we find clinical evidence of the utility of the potentized lime salts in conditions affecting the parathyroids, whose function is the appropriation of lime salts; or of the thyroid whose function is the fixation of lime salts in the body. Such faulty functioning is common in early childhood, and the lime salts frequently are indicated. We also find that "menstruation, pregnancy, lactation, all draw upon the stores of lime" to such an extent at times, as seriously to deplete them. It is worthy of note that the same remedies may be indicated whether such faulty assimilation occurs in early childhood, adolescence or during mature years.

Insufficiency of the parathyroid secretion leads also to extreme depression, both mental and physical, marked nervous-

ness and restlessness—a tremulousness or unsteadiness of the muscles and nerves, an inability to sleep or sit still. Parathyroid insufficiency also leads to the condition known as “tetany” characterized by sudden involuntary contractions of the muscles; greatly increased nerve excitability; intensely sensitive reflexes; and, disturbed metabolism as evidenced by loss of weight. As the lime salts in the blood are essential to the maintenance of the tone of the nerves, and as the administration of assimilable lime often relieves the symptoms, we have strong presumptive evidence pointing to the parathyroids as the factor at fault.

Proving developing symptoms of marked relation to given endocrines will ultimately, when fully understood, make possible most accurate prescribing. In addition, knowledge thus gained should lead to the early recognition of the more serious possibilities in any given case; and in general guide in the diagnosis, enable a more definite prognosis, prove suggestive in dietetics and materially aid in our therapeutic choice. Thus as our knowledge of the field of action of each endocrine increases the various symptom complexes of each drug will become more intelligible. Assured knowledge as to cause will lead to greater efficiency in treatment.

Symptomatology, is essential to the selection of the similitum; physiology and pathology are necessary to the interpretation and evaluation of the symptoms; all three are requisite to the truly scientific care of the individual patient.

As before stated, in the symptoms and conditions recorded by Hahnemann as indicative of psora, we find a large number distinctly related to some abnormal functional action of one or more of the internal secretions. This fact is confirmed in so many ways that it safely may be said to interpret much that hitherto has been subject of doubt. The symptoms of acute disease also point to the breaking down of nature's barriers against disease through faulty functioning of the protective endocrine mechanism.

Our knowledge of the causal conditions of disease thus augmented must surely enable us to reach greater efficiency in prophylaxis or preventive medicine, as well as greater accuracy in the selection of the similitum—thus attaining more nearly *Hahnemann's ideal*.

Proving under scientific control for the verification, interpretation, correction and amplification of the pathogenesis of each drug should be instituted, thus establishing the old and

enlarging our facilities through the development of the new.

I will cite but a few instances indicative of the value of such study. Careful observers have recorded the following drugs as having the power to promote the formation of auto-antitoxin and inciting fever by exciting the vasomotor and sympathetic centers: atrop., bella., apocy., bruciene, caffeine, coca, conval., digit., eucalyp., iod., merc., nux vom., quinine, spartiene, strophanthus, strychn.

Whereas, from provings and clinical evidence we may assume that acon., amn.c., apis, arnica, arum tri., baptis., bryon., cinch., colch., gelsem., hyos., ipec., mur.ac., nitr.ac., phos., phos.ac., puls., rhus, stram., and, in fact, all the antipsorics and most if not all the polychrests owe their curative power to their capacity for developing the antitoxic qualities of the blood, but more extended laboratory investigation will be necessary to establish the physiologic *how*!

Here is where our Hering Laboratory may afford valuable aid. Symptomatic pictures have been carefully drawn by Hahnemann and his coadjutors. We now must endeavor to perfect the work they so wonderfully wrought, by a systematic study of each remedy with special reference to the endocrine reactions and personalities. In such study the influence of the varying modalities should be carefully considered and accurately defined. Thus the lights and shadows essential to perfect portraiture of disease and remedy may be clearly developed.

This paper was written for the purpose of emphasizing the fact that in our provings we possess reliable records of the most efficient agents for arousing the autoprotective forces into prophylactic as well as curative activity; and further, to suggest that a better knowledge of the endocrines must prove an essential aid in interpreting the symptoms recorded in our provings thus solving some of the mysteries that hitherto have obscured our path.

If I have to a degree aroused a desire to more extended investigation along these lines I will have accomplished my object.

Permit me to submit for your inspection the repertorial analysis already alluded to, together with the schematic arrangement of the symptoms pertaining to the endocrine personalities, etc., as useful guides to the selection of the appropriate curative agent.\*

\*The repertorial analysis is too lengthy for publication at this time but will be presented in a future issue.

**FLAT FOOT OR PES PLANUS**

C. H. ROBINSTEEN, M.D., PITTSBURGH, PA.

(Read before the Homœopathic Medical Society of Pennsylvania, Sept. 26, 1922.)

THE subject designated, "The Foot from an Orthopedic Standpoint," is a very broad and inexhaustive study, but the condition which calls for our attention most frequently is flat foot or pes planus. Therefore, I have decided to discuss flat foot only.

This ailment is not only a troublesome one from the standpoint of the patient, but very often taxes an orthopedist to the utmost in attempting to cope with it, either in correcting the existing deformity or in relieving pain, if the foot has passed the point of correction.

It will not be necessary to describe the construction of the foot and its arches as well as its functions and movements. Likewise, one need not go over the etiology and symptoms of pes planus except in a brief description of a few cases which I have treated.

The feature that holds one's interest most is treatment. A patient presents himself complaining of pain in the feet and legs with perhaps some swelling over the dorsum and malleoli. If the arches are holding up, his feet are strapped with adhesive, maintaining a position of adduction and inversion. If the pain is severe, he is instructed to keep off his feet, etc. Now, plaster casts are resorted to, if the feet are rigid and the arches flattened. After removal of the casts massage is started, and exercises for developing the muscles of the legs and feet are instituted later. Then comes the proper boot and arch support.

Concerning the arch support, I feel those made of metal should be placed in the discard. They do not give the tissues the proper chance to "come back," but instead, serve as a rigid splint, thereby causing atrophy and a future dependence of the feet on artificial support.

For the past year, instead of resorting to casts and rigid support for the relief and correction of pes planus, it has been my practice to place a cotton wedge underneath the longitudinal arch for a distance of three-quarters of the width of the sole and extending from the anterior aspect of the heel to the transverse arch. This pad is thicker at its inner portion





and is held in position by two or three strips of adhesive. Then the foot, ankle and leg are supported by means of woven elastic bandages applied snugly and starting at the base of the toes on the dorsal surface and running up over the ankle and leg to the attachment of the ligamentum patellae. The bandage is wrapped from within outward so that the idea of adduction and inversion is carried out. The patient is instructed to do a moderate amount of walking about the house and return when the bandages loosen, which occurs in about five days. The dressing is then changed and a thicker cotton wedge substituted. Impressions are taken from time to time with pleasing results.

After the feet have shown sufficient improvement, arch supports of pliable material, adjusted at frequent intervals until the arches are raised to the proper height, are used and the patient instructed as to daily exercises for the feet and legs.

Patients have come to me suffering excruciating pain from very bad feet which, sometime previous, had been up in casts with relief for a time only. These cases exhibited the characteristic deformity with the astragalus rotated downward and inward; while the external malleolus was displaced anteriorly. Pressure, moderately applied over many areas on the sole of the foot caused the patient to cry out with pain. There were also, in a number of cases, pain referred to the knees, thighs, hips and backs with spasmodic attacks over the head of either the second or fourth metatarsal. Impressions showed the feet absolutely flat. The aforementioned procedures were carried out with an abolition of all subjective symptoms and arch reformation, as shown by the impressions taken. In the majority of cases treated after this method, results have encouraged a continuance.

To illustrate a few cases, I will present photographs of impressions of feet which have come under my observation. These impressions were made by rubbing stearate of zinc powder well into the plantar surface of the foot and toes and having the patient stand with all his weight upon a rigid square of cardboard covered with black paper discarded by our X-ray department. The patient's name with the date is written with lead pencil at the bottom. The impression is photographed and kept as a matter of record and to determine the progress of the case, as well.

I will present a few of these photographs with a brief description of the interesting features.



First of all, let us visualize a foot in which there is no pathology as is shown in Case "I," the left foot being particularly good. You will notice, first of all, the triangle with unequal sides—the shorter leg being formed by the outer border of the great toe, while the other side is formed by the inner margins of the second, third and fourth toes. The base of this triangle constitutes that part of the anterior limit of the transverse arch from its internal limit to the high point just back of the fourth toe. The base of this triangle and the leg formed by the second, third and fourth toes are about of equal length. In the anterior line of the transverse arch, there is a notch in a direct line back of the external limit of the great toe and another one behind and just internal to the fifth toe. The high point of the anterior portion of this facet is posterior to the mid point of the impression of the fourth toe and the low point is directly back of the middle of the fifth toe. From this low marking the impression is directed with a slight external convexity backward and a little inward toward the heel. The inner border of the metatarsal or transverse arch is directed backward, with a slight internal convexity for a distance about equal to the length of the great toe impression. It then curves externally with a marked posterior convexity which ends at a point in the plane of the inner aspect of the second toe. The line next curves anteriorly for a short space and at a point in the plane of the middle of the second toe it blends with the longitudinal arch where the mark drops gradually toward the heel with a small external convexity gradually narrowing down about the center of the heel where it joins the external line of the longitudinal arch. The heel gives almost an egg shaped impression being narrower anteriorly and the antero-posterior dimension greater than the lateral. This long axis is directed a little externally; an obtuse angle, slightly greater than a right angle being produced by its junction with a straight line at the heel. The dark space you see between the heel and transverse arch is present because of a very good longitudinal arch. You will also note that the great toe occupies a position at right angles to the anterior line of the transverse arch.

Case No. 2, as you will observe, shows a longitudinal arch "well up" with a transverse one not so good. Compare with "I" and you will see the changes from normal in the metatarsal arch although the feet are very serviceable ones.

Case No. 3 shows transverse arches starting to spread

with a callus formation on the left foot over the head of the second metatarsal from pressure caused by loss of elasticity, you will also observe the blurring just posterior to the inner aspect of the left transverse arch and the wide impression made by the external portion of the longitudinal arch indicative of a beginning flattening. The great toes, especially the left, are abducted instead of being straight. The toe triangle mentioned in case No. 1 is not so good in this patient.

Case No. 4 presents longitudinal arches which have dropped considerably while pressure points are noted over the heads of both second metatarsals. The landmarks on the anterior line of the transverse arches are lost while the "toe triangle" is changed, one arm starting at the junction of the external line of the great toe with the anterior line and extending along the external border of the second toe to the posterior point of the third toe imprint. The other arm is formed by the inner borders of the third, fourth and fifth toes. Also, observe that the great toes are slightly abducted.

Case No. 5 shows a pair of badly damaged feet with both arches all but completely down. Imprints of the third and fourth toes on the left foot and the third one on the right are very small because of the condition of the transverse arches.

Case No. 6 exhibits feet damaged beyond repair, both the left and right with callus imprints on both feet and a papillary growth anterior to the left heel. This case presented all of the classic symptoms, including rigidity.

Case No. 7 shows impressions of feet which caused the patient terrific pain and inconvenience; you will observe that some of the toe imprints are absent, this due to hammer toes. Also, the great toes are abducted, the left one being almost completely dislocated.

Case No. 8 was referred to me for pain in the mid-thoracic region which, upon examination, exhibited a rather tense musculature just to the right of the spine and sensitiveness in this area. Note the inequality in the longitudinal arches, the right giving an imprint about twice the width of the left. Corrective measures for the arches cleared up the pain in the back.

Case No. 9 was also referred for pain in the back. Examination revealed tenseness of the musculature and sensitiveness to pressure over the mid-lumbar region equally distributed to either side of the spine. The photographs are not

very clear in this case but the arches of both feet give impressions which are about similar in outline. Corrective measures for the feet dissipated the pain in the back within forty-eight hours. This patient I have seen a number of times and there has been no return of pain.

Case No. 10 is of interest because it shows imprints of arches which have stood up despite lack of development of the left foot following infantile paralysis eight years ago.

Case No. 11 exhibits a corrected club foot on the right side. Note the convexity externally on the corrected foot and that this foot is shorter than the left. The transverse arches are different as are also the toe triangles.

Case No. 12 is presented to illustrate that we sometimes run across feet which from the appearance of the impressions would lead us to suppose that all the classic symptoms were present, but, on the contrary, causing no inconvenience whatever. This girl, a waitress by occupation, was operated by me two years ago. The greater portions of the cuboid, the three cuneiform and portions of the second, third, fourth and fifth metatarsals were removed because of osteomyelitis. At the same time eight abscessed tooth roots were removed. Despite my urgings for this girl to wear proper shoes and supports she ignores instructions and continues to pursue her former occupation which, however, she should change.

Case No. 13 exhibits impressions of feet taken one year following a complete forward dislocation at the right ankle; you can see that both arches of the right foot are farther down than those of the left. So, it behooves one to attend to the arches following injuries about the ankle.

Case No. 14 presents impressions of very bad feet in a heavy woman who came to me because of pain and brawny swelling (cellulitis, non-suppurative) of the calves referable to double pes planus. This case was cured by the outlined treatment.

Case No. 15 is that of a patient treated after the method described previously, *i. e.*, cotton wedge, etc. "A" shows the feet at the beginning of treatment and "B" imprints after 4½ months' treatment. These feet were of the rigid type and caused considerable pain, especially the right one in which there is a limitation of motion at the ankle following dislocation. The symptoms have all disappeared and the patient has useful feet. "C" shows a lateral view of the right foot.

Case No. 16 is that of a boy five years of age with an eversion and weak internal lateral support of the ankles. "A" shows imprints at the beginning of treatment. "B" is six weeks later and shows lighter longitudinal arch markings. "C" shows the feet about eleven weeks after treatment began; both transverse and longitudinal arches are taking on definite form and on the right foot can be noted the almost complete cleavage between the arches.

I am also presenting imprints of infants' feet taken anywhere from a few hours after birth to ten days. Observe, there is no arch formation because there is no necessity for it and the tissues, including the bones, are not developed.

Flat foot has caused considerable study and to quite a number it may be a tiresome theme, yet still more thought can be expended advantageously, especially in the direction of treatment and those cases which seem so hopeless, may be benefited.

I trust this paper will be helpful to the general practitioner, especially in locating the cause of vague pains which may be referable to the feet. It is my hope that casts and rigid arch supports will be dispensed with in the treatment of flat foot.

3509 Fifth Avenue.

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#### DIAPHRAGMATIC HERNIA

JOHN G. WURTZ, M.D., AND GEORGE B. MORELAND, M.D., F.A.C.S.  
PITTSBURGH, PA.

(Presented at the regular meeting of the Medical Board of the Pittsburgh Homoeopathic Hospital, November, 1921.)

THROUGH the courtesy of Dr. F. V. Wooldridge, Department of Obstetrics, is here presented a specimen of false congenital diaphragmatic hernia occurring on the right side. Before going into the details of this case, it seems well to give a brief discussion of such conditions.

Diaphragmatic hernias may be congenital or acquired. The latter are usually due to trauma and may be large or small; true or false; through any part of the diaphragm, depending upon the nature, force, extent or location of the injury. They, as with the congenital variety, usually occur on the left side, because on the right side the liver naturally protects the diaphragm. These hernias present clinical and an-



CASE OF DIAPHRAGMATIC HERNIA, DESCRIBED BY DRs. WURTZ AND MORELAND



atomical findings varying with the nature and extent of the injury and are readily diagnosed by the X-ray instead of leaving them to be found as an autopsy surprise.

False congenital diaphragmatic hernias are the commonest of all diaphragmatic hernias, being about 87 per cent. of all congenital hernias. One can readily understand this when one considers that it is an imperfect development of the diaphragm which permits the protrusion of the abdominal viscera into the thoracic cavity, and with the imperfection of the diaphragm an absence of peritoneum and pleura at that point; hence no sac and the name "false." True congenital diaphragmatic hernias require a complete closure of the septum transversum so that a true hernial sac is formed by the peritoneum and pleura. It signifies a more perfect development.

The true acquired diaphragmatic hernia consists of a protrusion of peritoneum through a hernial ring which is formed either by the dilatation of one of the natural foraminae or, very rarely, by the giving away of a circumscribed weakened area acquired after birth.

Just why the diaphragm does not close is not understood, though the theory is put forth that the last part to close is poorly vascularized and intraabdominal pressure causes nutritional disturbances which lead to an arrest in development. This may or may not be. It does not seem to hold true in those cases in which there was found a congenital absence of the diaphragm, though it seems plausible and may explain in part diaphragmatic eventrations in which one-half of the diaphragm is greatly relaxed allowing the abdominal organs to encroach upon the thoracic cavity. In such instances the muscle itself acts as a sac. Then, too, congenital hernias have been found with openings in various parts of the diaphragm, while studies have shown that the costal and lumbar portions are the last to close.

The most interesting feature of this case is that the hernia occurred on the right side, which is most unusual. The liver is displaced downward and forward exaggerating its increase in size. The left lung is collapsed and is pressed to the posterior part of the cavity, while the heart is occupying the entire anterior part of the left thorax, as can readily be seen. The right lung is displaced downward and outward to the anterior inferior portion of the right thoracic cavity, resting upon the diaphragm. Within the right thoracic cavity, and

even extending to the left of the median line, can be seen coils of colon. The hernia consists of a protrusion of transverse, and ascending colon with about the lower half of the ileum. These pass through the hernial opening which is lanceolate in outline and about one centimeter in its greatest diameter. The anterior margin of the hernial opening is about two centimeters from the anterior costal margin of the diaphragm and in what would be the right nipple line. The coils of intestines are adherent to each other after they have passed through the opening and the opening itself has somewhat thickened borders. The stomach is drawn down and to the right and is behind the liver. The coils of small intestine which occupy the abdominal cavity are greatly distended. The pancreas, spleen and kidneys occupy approximately their normal positions.

REPORT OF A CASE OF ACQUIRED DIAPHRAGMATIC HERNIA: DR. MORELAND.—Diaphragmatic hernia, as has been stated by Dr. Wurtz, naturally divides itself into congenital and acquired, and there is no necessity for my entering into a discussion of their differences, as he has fully covered those points; nor shall I dwell at all on congenital hernias, as Dr. Wurtz has gone into detail on that point and has presented a specific case from the hospital records.

Hernias of both types are rare and not many surgeons have seen them, and very few have recognized them before operation, or, in some cases, before autopsy, even when an operation was performed.

Acquired hernias almost all occur as the result of some injury to the diaphragm, which permits, immediately following the injury or at a later period, the invasion of the chest by some of the abdominal contents. Their recognition is difficult, not a sufficient number of them having been seen to make clearly distinctive differential diagnostic points.

Acquired hernias are found more often on the left side than on the right, and in such cases the most important physical sign is displacement of the heart to the right. Another sign is an area of tympanitis over the thorax, but this area may vary in size at different times. In case the stomach is in the hernia an X-ray after a meal is taken may be of value. Dyspnoea may be present, depending upon the size of the hernia and the amount of chest space it occupies.

On the night of September 20, 1921, there was brought into the hospital a young man who had received an injury

while riding on the running board of an automobile, the automobile having been in collision with a street car. When he arrived in the hospital he was in a state of shock, but outside of an abrasion on the abdomen, having no evidence of external injury. He complained of pains in the left lower chest and the chest was strapped with adhesive by the interne. He had a temperature of 97, pulse rate 110, respirations 40. I was called on the telephone, but the interne told me he thought the patient was recovering from the shock, and that he would notify me later in case I might be needed. About an hour and a half later I was called and told that the respirations were about the same, the pulse rate had reached 120, and the patient was pale and cold, skin moist. Upon arriving at the hospital I found the patient as stated, and in addition to this he had rigidity in the upper abdomen, especially on the left side, and was unable to breathe easily unless sitting in an erect position. He had vomited a slight amount of blood. A diagnosis of internal hemorrhage was made, and although he was in a desperate condition, an operation was decided upon.

The abdomen was opened in the median line. Free fluid blood of a considerable quantity found in the abdomen. Upon examining carefully, neither the omentum, transverse colon, nor the stomach could be seen; and upon further investigation they were found to have gone through a rent in the left diaphragm and to be situated in the left chest. Through this rent in the diaphragm the heart could be grasped in the hand. After considerable difficulty, owing to the fact that acute dilatation of the stomach had taken place, the stomach, transverse colon, and omentum, with a large section of the small bowel was taken from the left chest and placed in normal position in the abdomen. The rent in the diaphragm was quickly sutured, a drain was placed in the abdomen and the wound closed. In addition to the condition already stated the spleen was dislocated, although no hemorrhage could be seen coming from it. The patient died about an hour and a half after removal from the operating room.

This case is related because it is unusual both from the standpoint of a diaphragmatic hernia, and from the contents of the left chest as found at the operation. The only special significant sign that might indicate such a condition in any other case was the great dyspnoea from which this patient suffered. I do not know of any other value that we may derive from this.

**THE IMPORTANCE OF THE SYMPTOM "DIZZINESS" TO THE GENERAL PRACTITIONER**

BY WILLIAM G. SHEMELEY, JR., M.D.

(Read at the Annual meeting of the West Jersey Homœopathic Medical Society,  
Camden, N. J., May, 1922.)

THE word "dizziness," when used by patients in describing their symptoms, is frequently misleading. However, for the purpose of this paper, it was deemed a better expression than the word "vertigo," although vertigo is most often meant when the term dizziness is used.

When the symptom dizziness is brought to our attention, the question arises: what probable causative factors ought to be considered? First, the etiology, neuritis of the auditory nerve may be due to (a) poisoning from quinine, sodium salicylate, aspirin, arsenic, or some other poison known to have a selective affinity for the eighth nerve, (b) Focal infection, (c) Syphilis, and (d) one of the acute infectious fevers.

Second, dizziness is at all times suggestive of possible intracranial symptoms, since the eighth nerve has the same dural covering as the brain; therefore, anything that can increase intracranial tension would likewise tend to produce pressure upon the auditory nerve.

Third, dizziness may occur as the result of poor adjustment of glasses, or various paretic conditions of the extraocular muscles.

Since dizziness that depends upon neuritis of the eighth nerve is always associated with a nystagmus of a definite type, perhaps it will be better at this point to briefly consider nystagmus.

Nystagmus is an involuntary to and fro movement of the eyes. It is divided into two types: the oscillatory or undulatory, in which the to and fro movements of the eyes occur with equal rapidity, and is found in those cases of impairment of central vision.

The rhythmic form of nystagmus is one in which the to and fro movements of the eyes occur with unequal rapidity, and is composed of a quick movement with a slow return and is designated right or left, up or down, according to the direction of the quick component. Usually this form of nystagmus is found in diseases attacking the vestibular apparatus and the auditory nerve.

Rhythmic nystagmus occurs in any one of the three planes: horizontal, frontal (rotary), or sagittal (vertical). This form of nystagmus is independent of efforts of the will to inhibit it. However, if the patient looks toward his nystagmus, since the degree of the nystagmus now equals the sum of the already existing nystagmus, plus the pull of the muscles tending to produce a physiological nystagmus—the nystagmus will be increased. Should the patient direct his gaze away from the direction of the nystagmus, if the pull of the muscles tending to produce a physiological nystagmus in that direction (which is opposite to the existing nystagmus) is less than the existing nystagmus—then the nystagmus will be diminished; if the pull of the physiological nystagmus is equal to the existing nystagmus, the nystagmus will cease. If the physiological nystagmus is stronger than the existing nystagmus, then the direction of the pathological nystagmus will change to the opposite side only so long as the patient continues to gaze in that direction.

Given a patient complaining of dizziness, one of the first steps in the search for a cause is the taking of a careful history. Determine whether or not the patient has been taking quinine, aspirin or preparations likely to contain arsenic or sodium salicylates, or the various other drugs capable of causing neurolabyrinthitis. Was the dizziness accompanied by deafness? If so, was the deafness in one or both ears, and was it accompanied by noises or tinnitus in the ears?

Of what importance to the subject of dizziness is the presence of diminished hearing? Cochlear nerve deafness is usually found to precede neuritis of the vestibular portion of the eighth nerve. Since a patient with nerve deafness frequently speaks in a much louder tone of voice than the normal person, the examining physician should give this matter thought, when it occurs in a patient who complains of dizziness.

Unrecognized syphilis is a frequent cause of cochlear nerve deafness, and because early and proper antiluetic treatment will conserve the major portion of the patient's hearing, the importance of the early recognition of syphilis as a causative factor of cochlear nerve deafness and dizziness from extension to the vestibular branch of the eighth nerve, at once becomes apparent. When careful questioning has ruled out the possibility of drugs as factors in the production of dizziness, the attention of the examiner may now be directed toward the

problem of the acute infectious fevers. Many times dizziness is present as the aftermath of a scarlet fever that has been forgotten.

Foci of infection, especially those arising from unrecognized apical abscesses of the teeth, are more often productive of dizziness than we suspect.

The patient who wears glasses and complains of dizziness will need to be observed for the possibility of poor adjustment of the lenses, especially if the history brings out the fact that the dizziness appeared after the glasses had been prescribed and worn.

Frequently persons will experience dizziness when they first begin to wear bifocals, more especially if the glasses are so poorly adjusted that one eye correction is distant and the other near, thus producing a diplopia.

Paresis or paralysis of extra-ocular muscles is productive of dizziness.

The dizziness or vertigo produced by paralysis of extra-ocular muscles will disappear as soon as the patient learns to suppress the false image of the squinting eye. When dizziness or vertigo is produced by paresis of extra-ocular muscles it tends to remain constant, since the diplopia is shifting in degree. Dizziness as a symptom of intracranial complications is merely mentioned for the purpose of bringing it to your attention, since diagnosis of the condition is usually so intricate as to place it outside the sphere of general practice. This is also true of disease of the optic nerve.

That diseases affecting the muscles and joints are capable of producing dizziness or vertigo, should not be forgotten.

The normal person has the various muscles so well synergized that he can stand erect without swaying, walk without wabbling, and do these in the dark as well as in the light.

When disease affects the nerve pathways for these sensations, whether completely or incompletely, the individual begins to suffer from a disturbance of orientation. So long as the patient's eyes remain open there is but little discomfort, but when his eyes are closed or something interferes with the vision, since a second organ of orientation is shut off, the gait becomes uncertain and the patient may actually fall. This picture is a familiar one in *tabes dorsalis*.

Many of the problems brought to your attention will, no doubt, impress you as requiring the need of special study.

This is, indeed, true. However, the desire of the writer is to touch upon a few of the more salient facts pertaining to dizziness, in the hope that the patient with dizziness might not continue to be treated as one suffering from "stomach trouble," or "liver trouble," but as a patient suffering from a symptom, the causative factor of which must be discovered if treatment is to proceed along rational and curative lines.

1831 Chestnut Street.

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### THE CIRCULATION OF THE CEREBRO-SPINAL FLUID

BY CHARLES A. LEY, M.D., PITTSBURGH, PA.

(Read before the Homœopathic Medical Society of Pennsylvania at Bedford, Tuesday, Sept. 18, 1921.)

OBSERVATIONS upon the fluids of the body have been made from time immemorial, and have always aroused much interest and speculation. The earliest medical works contain treatises on the blood and urine. While there was mention of the cerebro spinal fluid by some of the very early writers it was not until 1825 that Magendie by masterly observations realized the intimate connection between the fluid in the ventricles and that in the subarachnoid space, and also the physiological possibilities of a fluid which comes into such close relation with the nervous system.

In a paper of this length the anatomical considerations of the membranes, etc., must be, of necessity, very fragmentary.

The cerebro spinal fluid occupies the ventricles of the brain, the subarachnoid space, and the central canal of the cord. The brain is covered by three membranes, the dura mater, the arachnoid mater and the pia mater, and between these three membranes there are two cavities, the sub-dural and the sub-arachnoid. There are no communications between these cavities. The pacchionian bodies are invaginations of the spongy areolar tissue which occupies the sub-arachnoid space. They project for the most part into the superior longitudinal sinus. Various functions have been attributed to them. Possibly they represent one of the portals through which the cerebro spinal fluid passes from the sub-arachnoid space into the blood. A large portion of the cerebro spinal fluid is found in the sub-arachnoid space, that is, between the

arachnoid and the pia. In some places there is quite a depth between these two membranes with the resulting formation of cisterns of which there are three, namely:

The cisterna magna behind the medulla and cerebellum, the cisterna pontis in front of the medulla and pons, both being continuous with the spinal arachnoid, and lastly the cisterna basalis, which is of large size and comes into intimate relationship with the interpeduncular space, where many of the inflammatory conditions of the meninges show their most intense manifestations.

The arachnoid villi are projections of the arachnoid, usually enveloping a vein, into the sinuses. Weed is of the opinion that the pacchionian body is merely a hypertrophic villus, thus becoming visible to the naked eye, and he regards the change as a pathological one, associated with the increasing age of the individual. The arachnoid villi are not the only examples of prolongations of the subarachnoid space. As the cerebral arteries pass into the brain substance they carry with them a fine sleeve-like sheath which accompanies the vessel until it becomes a capillary, at which point the sheath apparently ends as a cul-de-sac, becoming incorporated with the vessel wall. Between the sheath and the vessel wall occurs the perivascular space. Weed has demonstrated these spaces by exsanguinating an animal. It is in these spaces that we find accumulations of inflammatory cells, lymphocytes and plasma cells in general paresis, sleeping sickness and acute poliomyelitis. These spaces are directly continuous with the subarachnoid space.

In addition to the perivascular spaces it is also possible to demonstrate similar spaces around the nerve cells. These perineuronic spaces communicate directly with the perivascular spaces, and thus eventually with the subarachnoid space. The fact that the nerve cells come in this manner to be bathed in the cerebro spinal fluid is one, the importance of which it is impossible to overestimate. There are still other prolongations of the subarachnoid space along the cranial and spinal nerves. They are most marked along the olfactory, the optic and the auditory nerves.

Lying free in each ventricle there are two highly convoluted tufts, the choroid plexuses. Choroid gland would probably be a more suitable name as they are now known to be active secreting organs of the cerebro spinal fluid. Walter



Dandy of Johns Hopkins Hospital has proven very conclusively by experimentation on animals that the choroid plexus is the sole source of the cerebro spinal fluid in the ventricles. If there is an additional source of the fluid it must be either the endothelial surface of the walls of the arachnoid space, or the perivascular prolongations of that space.

The direction of the flow of the cerebro spinal fluid would seem to be from the perivascular spaces to the subarachnoid space. Experimentally and clinically in cases of marked intracranial pressure, the spaces are found to be blocked and are filled with fluid to an extent never seen in health. There seems to be good reason, therefore, to believe that the fluid in the subarachnoid sac is constantly being augmented by additions from the perivascular spaces of the arachnoid mater. These additions probably carry out with them the products of neuronal metabolism so that a difference between the subarachnoid and the ventricular fluids is to be expected rather than be wondered at.

The absorption of the constantly secreted fluid is from the subarachnoid into the cerebral sinuses by way of the arachnoid villi. From the spinal subarachnoid, there being no spinal villi, it is through the lymphatics of the anterior and posterior nerve roots. There is also some absorption by way of the lymphatics from the brain cavities but just how this takes place has not been proven. It is, however, much less in amount than through the cerebral sinuses.

Communication between the ventricles and the subarachnoid space takes place through the foramina in the roof of the fourth ventricle.

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THE USE OF RADIANT HEAT—LIGHT—IN THE TREATMENT OF OTITIS MEDIA.—Gerstenberger and Dodge, on the basis of their experience in treating persistent chronic cases of otitis media in infants and children with radiant heat—light—supplied by a small, 600 candle power, white glass "Sollux" lamp, draw the following conclusions:

1. Local and general discomfort are in most cases removed after the first exposure.
2. Virtually all cases show not only a cessation of the discharge, but also a complete healing of the drum membrane.
3. On an average 8.7 exposures—from two to fourteen in the extremes—were sufficient to bring about this result.—*American Journal of Diseases of Children*, October, 1922.

## EDITORIAL

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### HIGH BLOOD PRESSURE THIRTY-FIVE YEARS AGO

THE Croonian Lectures on the Pulse were delivered by Dr. Broadbent before the College of Physicians in London in 1887. One year later they were reproduced in book form. In the light of present day professional knowledge, the remarkable insight into clinical work in the absence of laboratory methods of investigation at that period was truly remarkable. The observations then made concerning high arterial tension impressed themselves strongly on our minds and have proven invaluable to us ever since.

A few days since we picked up Broadbent's book on the Pulse and turned to the chapter on high arterial tension. The result of our reading was so interesting as to lead us to make these editorial remarks. First the author observes as follows: "High arterial tension is not to be measured by a certain number of grammes or ounces of pressure employed to elicit a characteristic sphygmographic trace; it is a *relative*, not an absolute term. Ultimately, the measure of the tension in the arteries is the force of the systole of the heart, but modifying influences of extreme importance are introduced by the peripheral circulation."

The author then proceeds to tell very plainly the methods for determining high arterial tension by means of the finger alone. It would be a good thing if today another Broadbent should arise and descant on the same subject.

Next our author takes up the subject of the causes of high arterial tension and these in a general way he tabulates as follows: 1. Increase in the volume of blood. 2. Frequent and powerful action of the heart. 3. Arteriole contraction. 4. Resistance in the capillaries. Certain practical points are brought out in discussing these several items. For example, we are reminded of the temporary increase in the volume of the blood

after a meal and the resulting high tension. Also we are told of high tension in acute nephritis, the result of retained urinary water. Further on we read a comment on the effect of external cold in producing contraction in arterioles of the skin. He shows that in some cases swimmer's cramp and angina pectoris are a direct result of this chilling of the surface. He calls to mind that in hysteria, "arteriole spasm is a highly characteristic feature, especially during a hysterical fit. The copious limpid, watery urine is, no doubt, an effect of the high arterial tension so induced. Nervous excitement of certain kinds is attended with contraction of the arteries; and this is the explanation of the diuresis of nervousness."

In migraine, again, there is general arteriole spasm, and the attack itself has been attributed to contraction of the cerebral arteries.

The serious cause of high tension is found in capillary resistance. Today we, the doctors and patients alike, are too prone to say that high tension from this cause means hardening of the arteries or Bright's Disease. Our author, however, does not stop at any such limitations and shows conclusively that resistance in the capillaries may be increased by reason of age, heredity, renal disease, gout, diabetes, lead-poisoning, pregnancy, anaemia, and emphysema.

The remote causes of high tension are summarized as those which conduce to the imperfect oxidation and elimination of nitrogenized waste and are stated as follows: 1. Food. 2. Alcoholic drinks. 3. Sedentary habits. 4. Constipation.

If we in the present day are insistent upon the prognostic value of high tension, Broadbent, thirty-five years ago, was no less so. Certainly, however, he dwells more upon particulars. He presents the pathological effects of high tension under the following headings: 1. Hypertrophy of muscular coat of arteries and fibroid change. 2. Rupture of vessels. 3. Atheroma and degeneration of small arteries. 4. Atheroma of aorta and its consequences. 5. Disease of the valves of the heart. 6. Hypertrophy of the heart-walls. 7. Dilatation of the heart.

Now come several pages devoted to a consideration of the various symptoms of high tension. These really constitute the weakness of the chapter because symptoms of high tension *per se* and of the massed pathological factors are almost hopelessly intermingled!

Our author's advice as to treatment is good. It is directed

mainly to the cutting down of nitrogenized waste in the circulation and its elimination by free water drinking. In the matter of diet the author is very conservative and does not advise abstinence from protein foods by any manner of means, but adopts the sensible course of counseling a properly balanced diet. Aware of the error of inordinate water drinking on high tension, but he shows that it is not so much the amount of water taken by the patient as it is the manner of taking it that makes its use detrimental.

The closing remarks on prognosis are very interesting and are as follows: "At the very outset of the employment of the sphygmograph for clinical purposes, Dr. Burdon Sander-son pointed out the prognostic significance of high arterial tension, and the importance of this can scarcely be exaggerated. Years beforehand it can be foreseen that certain persons will, at a given age, be in danger of an attack of apoplexy, or will suffer from dilatation or other disease of the heart. These events are simply the developments of the effects of unduly high pressure in the arterial system, and are foretold by the tense radials and tortuous temporals.

"It must not be at once concluded that everyone who presents these marks of high tension will necessarily be cut off prematurely by cerebral haemorrhage, or heart disease, or crippled by paralysis. There are individuals of so tough a fibre and of such vital tenacity that the teachings of average experience do not apply to them, and the heart and vessels do not suffer appreciably from over-strain, which would be destructive of more cheaply organized structures.

"Again, degeneration in the arteries and failing energy in the heart may proceed with such even steps that the heart does not rupture the vessels nor the vessels ruin the heart. More than once I have seen patients in whom the tension was dangerously high, and in whom it seemed that something must give way, outlive the dangers to which they were exposed from high blood-pressure in the arteries, and, after slow and gradual failure of mental and bodily vigor extending over many years, ultimately die of senile gangrene or thrombosis of cerebral vessels. Allowance, again, must be made for the effect of change of régime and mode of life adopted voluntarily, as when a man retires from business, or enforced by illness. How often does an attack of hemiplegia lead to a prolongation of life?

"While, therefore, abnormally high arterial tension is a sufficient ground for apprehension, it is only one factor in the prognosis, and must serve as a starting-point for investigation.

"The first point to be ascertained will obviously be the amount of injury already sustained by the heart and vessels.

\* \* \* \* One of the most important inquiries will be as to the family longevity and the modes of death which have prevailed. In one family apoplexy will predominate, in another heart disease; the latter reveals the more serious tendency.

"If brothers or sisters have died at a comparatively early age from cardio-vascular disease this will be much more significant than the age at death of parents or grandparents, and may entirely neutralize inferences from their longevity. It is not at all uncommon in high tension families for successive generations to become shorter-lived, with or without the development of tendencies to diabetes or kidney disease.

"The medical history of the individual will have to be taken into account, *e. g.*, attacks of acute and subacute gout from which he may have suffered, liability to functional derangements of the kind ascribed to suppressed gout, the character and quantity of the urine, especially its specific gravity. An estimate also must be formed of his vital tenacity, of the integrity of his structures, and the quality of his blood, from his general appearance and complexion and from the condition of his skin. Conclusions from a healthy and hearty look must be subject to the results of the examination of the heart and vessels; when the vessels are degenerated and the heart is sound, rude health becomes a source of danger.

"The habits, dietetic and other, and the mode of life generally must also be taken into consideration. They may be responsible for the high tension in a greater or less degree, and the prognosis may turn on the power or willingness of the patient to modify his mode of life."

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#### THE MEDICAL JOURNAL: ITS READERS AND THE ADVERTISER

If one peruses the advertising pages of the secular monthly and weekly magazines, and is possessed of the knowledge of the prices which advertisers contribute to the prosperity of the journal, he wonders how it can pay. That this publicity work does pay is evident, because it continues year

after year not only unabated but actually increased in volume. That the prices paid are high and that the magazines reap great profit is further attested by the high salaries they pay their contributors; and still further, said magazines oftentimes sell to the public at a price less than the cost of the paper on which they are printed. Few seem to comprehend this.

In medical advertising it is different in many respects. The publisher envies the high price of the lay magazine. He cannot expect from a limited class subscribing the unlimited contract given to magazines for unlimited possibilities. Still very much can be done to harmonize conditions. Advertisements in the medical magazine should be profitable to both advertiser and publisher, therefore, there should be an adequate price in return for the adequate service. That adequate price means in return an advantage to the reader. If one looks over the medical books of to-day he notes the high prices, oftentimes as much as four cents a page and seldom, if ever, lower than one cent a page. Then let him make a comparison with medical magazines of a high standing and he will realize that he is getting his reading matter from one-fourth to one cent a page. This is a practical matter from the reader's standpoint.

Readers, therefore, should make it their duty to look over the advertisements. They may learn something either affirmatively or negatively. They are not forced to believe everything they read; nevertheless, it is a good thing for them to do the reading. The advertiser, in turn, should make it his duty to give the reader a new story at short or relatively short periods. The man who publishes the same old story month after month and year after year cannot expect attention, because readers object to the same old thing. Indeed, they might wonder at this lack of enterprise at not having a new story to tell with each issue of the magazine.

Let us get together, advertiser, journal and the professional public. Let us not expect too much of each other and yet let us co-operate to the advantage of all. In one respect, medical advertising resembles the advertising work in all class publication. It seldom appeals directly to the consumer. Let us take a given medicine as an example: Digitalis. There we have a product which is consumed by the public. It is recommended by the profession. The average number of the public to physicians is seven hundred; therefore, with two thousand

reading a medical journal, thus digitalis is advertised to one million, four hundred thousand laymen, which gives a medical magazine a fair circulation to the consumer as compared with the best of the lay public. Advertisers now must consider the possibilities of the work. In fact, we might almost say they must consider their responsibility in the way of interesting the reader.

There is another class of advertisers, however, that cannot expect such a large patronage. Take the book man or the instrument man. They are advertising really to the two thousand. What is more, they are advertising to a limited class of that two thousand; those who buy books or instruments. These men, furthermore, are the ones from whom the medical reader really derives the greatest advantage. They make his equipment, they teach him much that enables him to appreciate all matters medically, and their "ads" are distinctly to his advantage.

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**LIFE EXTENSION ONCE MORE—DOCTORS, GET BUSY—KEEP YOUR  
PATIENTS FOR YOURSELF—YOU ARE THE  
ONLY COMPETENT EXAMINER**

It is but a few months ago that we enjoined upon our physicians that they take up the spirit of the life extension movement, and apply it in their daily work. The movement is growing, and what is unfortunate, it is growing in a direction in the highest degree undesirable and of distinct disadvantage to the public-at-large. The following is one of the latest of the Radio-Health Hints for broadcasting issued by the New York State Board of Health. We quote it entirely as our sentiments, and we enjoin upon our readers the advice which heads this editorial. If the advice is not taken, all may rest assured that it will be to the death of general medicine.

**TAKING A HUMAN INVENTORY**

Once a year, or oftener, the up-to-date business man takes a complete inventory of his stock and is thus able to know what is the exact condition of his business. Such an inventory shows what sections or departments are yielding good returns and what departments need special attention in order to put them on a paying basis.

If a yearly inventory is so important in business, how much more important is it that we should take a yearly inventory or examination of the various parts of our bodies to see if they are working properly.

Oftentimes, in business, a poorly paying line or one actually losing money can be changed so that it becomes the most successful once the inventory has shown the necessity of concentrating attention on this particular department. In the same way, a part of the body not working properly can, in many cases, be brought back to complete health, provided faulty habits and wrong methods of living are corrected.

The only way of finding out what condition a person is really in is to have a complete medical examination. By this is not meant just a hasty examination of the heart and lungs with a stethoscope. It means a systematic medical survey of the individual, including both mental and physical aspects, and taking into consideration his living and working conditions, habits, recreation, income, personal and family history, etc. Various special tests are required, including among others, examinations of the blood and secretions, a test of the eyesight and hearing, an X-ray of the chest, and an examination of the nose and throat.

Some people are afraid of having a physical examination made for fear of finding out that there is something wrong with them. This attitude is as foolish as fearing to ask, when motoring, if you are on the wrong road; for in both cases the further you go without correction the worse off you are. Both in the matter of health and traveling, first find out if you have made any errors and thereafter, keep to the right road. Health, like the highroad, is abundantly marked with sign-posts if you are not traveling too swiftly and will take pains to slow up and read them.

Once a year, at least, go to a competent physician and have a complete physical examination made. If there is nothing the matter with you, there is no greater satisfaction than knowing this fact. If, on the other hand, some part of the body is out of repair, learn what it is and what to do to build up or keep it from growing worse. The human body is the only machine for which there are no spare parts. Learn to use rightly those you have.



**IMPORTANT ANNOUNCEMENT**

It gives pleasure to announce that arrangements are now in course of completion by reason of which the **HAHNEMANNIAN MONTHLY** will have the same close relationship to the Homœopathic Medical State Societies of New York and New Jersey as it has held for the last twelve years with Pennsylvania. The arrangement with Pennsylvania was a peculiarly fortunate one in that the use of the journal for prompt publication of the Society's transactions and the prestige of the Society given to the journal strengthened both to a degree that none but those intimate with organization details can appreciate. Now that the great States of New York and New Jersey have participated in the journal organization, it is evident that the reciprocal relationships established will add greatly to the prosperity of all. It is as yet too early to give promises. If experience is any factor in prophesying, the Editorial Committee can promise that the journal will be better and stronger than ever because of the support given it by such healthy organizations as those of New York and New Jersey.

Although not as yet officially decided, it looks at present writing as though the **HAHNEMANNIAN MONTHLY** will become the sole medium of publication for the proceedings of the Eastern Homœopathic Society which started under such brilliant auspices in the month of October.

At the present time we can announce the following additions to our staff: Dr. David B. Jewett, of Rochester, N. Y., becomes a member of the Editorial Committee; Dr. Milton J. Raisbeck, of New York City, will hereafter conduct the Department of Medicine in *Gleanings*; while Dr. Leon S. Loizeau, also of New York City, will conduct the Department of Obstetrics.

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**SYPHILITIC AORTITIS.**—In Campbell's series of thirty-seven cases of aortitis, syphilis was found to be the causal factor in thirty-one. Of these, twenty-eight gave a positive Wassermann reaction, and in the remaining three a definite history of syphilis was elicited; in one twenty years previously, and in the others twenty-six and twenty-seven years, respectively. Of the remaining six cases, one was found in a case of subacute endocarditis, while two other patients gave a definite history for rheumatic fever. Another had lived in the tropics for a long time and had a high blood pressure—220 systolic. The remaining two patients gave no definite history of any previous disease.—*Edinburgh Medical Journal*, Sept., 1922.

## GLEANINGS

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### MEDICINE

Conducted by Clarence Bartlett, M.D.

**BISMUTH POISONING AND ALBUMINURIA.**—Paul Blum observes that stomatitis and other forms of bismuth poisoning have again attracted attention since the discovery of the anti-syphilitic action of certain bismuth salts. Stomatitis appears to have been most frequently observed, although gastro-intestinal, renal, and hepatic lesions have been described. Although several eminent French authors have seen no other effect on the kidneys than a transient polyuria, others have described cases of syphilis under treatment by intravenous injections of bismuth salts, who developed quite suddenly severe albuminuria, followed by the passage of epithelial, granular, and hyaline casts. The author has collected numerous cases, from the time of Pott (1739) onwards, in which there was intolerance of bismuth salts, especially after their external application. Toxic symptoms have been observed after the application of bismuth subnitrate (to varicose ulcers, burns, etc.), which forms a soluble albuminate in contact with a raw surface. The oxygallate (airol) and subgallate (dermatol) and Beck's paste have all produced toxic effects, and these have followed the injection of bismuth emulsion in cases of fistula, either for radioscopia or when treating cloacae. A number of writers have observed stomatitis, black patches on the gums and tongue, enteritis, and albuminuria (occasionally). Eggenberger has published a fatal case in a child of 7. Reich and Matsouka have recorded fatal cases in which renal lesions were found at the autopsies. Internal administration of bismuth is far less dangerous, but cases have been recorded when the subnitrate has been given for gastric ulcer or for skiagraphic purposes. The symptoms recorded suggest that the presence of nitrites is responsible. Poisoning from bismuth carbonate is much more rare, though its conversion into a soluble chloride in some instances was noted by Chessevant. Blum gives details of numerous experiments on animals with various double salts. The renal lesions observed were not exceptional—albuminuria, casts, and parenchymatous nephritis, with more or less fatty degeneration. In animals, as in man, renal lesions coexisted with stomatitis and enteritis. Pisenti compares the action of bismuth to that of phosphorus and antimony. Bismuth is eliminated as sulphide, which explains the fact that certain urines are black, resembling that of haemoglobinuria, although there is no renal lesion. Blum emphasizes the point that, clinically and experimentally, the lesions in the mouth and intestine are the first signs of bismuth poisoning—they are danger signals which indicate the necessity for a systematic examination of the urine. In syphilis, during a course of bismuth treatment, it is especially necessary to examine the urine systematically, as when the patient is undergoing treat-

ment with mercury or arsenic. Should one pay attention to a slight albuminuria? In the author's opinion it should not be considered of toxic origin unless accompanied by the above-named symptoms; in certain cases it may be a "Herxheimer's reaction," indicating the continuance of the treatment rather than its cessation. Thus, Fournier and Guenot have obtained excellent results in the treatment of syphilis while disregarding very slight albuminuria. In toxic albuminuria, bismuth treatment should be stopped immediately, and thus the possibility of more serious results may be avoided.—*Paris Medical*, July 29th, 1922, p. 105.

**LUMINAL IN MIGRAINE.**—Wilfred Harris has treated several cases of migraine with luminal with satisfactory results. He bases his preference of luminal in this disease upon the alleged relationship between migraine and epilepsy in which latter disease the remedy has proven very efficacious.

The dose of luminal should as a rule be not more than  $\frac{3}{4}$  grain three times daily at first, and if the result is good the dose need not be increased but after a fortnight may be reduced to twice daily and later to once daily, at bedtime. Occasionally larger doses, as  $1\frac{1}{2}$  grains three times a day, may be required to produce a good effect, but if this dose is made a routine at the commencement of treatment toxic symptoms will often be met with, such as excessive drowsiness, inco-ordination of the limbs, and a sensation of unreality in relation to surroundings.

After continual administration of the drug for a week or more, various cutaneous rashes may be seen, such as erythema, urticaria, and a macular pink blotchy eruption, perhaps followed by dry, branny desquamation. These rashes are unlikely to occur if an initial dose of  $\frac{1}{2}$  or  $\frac{3}{4}$  grain three times a day is not exceeded.

If migraine or other headaches are associated with sleeplessness, luminal is especially indicated, and  $\frac{3}{4}$  grain three times a day will usually give refreshing sleep every night, such as the patients have not known perhaps for many months. This coincident relief of the insomnia and of the distressing headaches is a most striking evidence of the value of this treatment. How long to continue it must be settled by further experience.

At present, after two weeks' administration of  $\frac{3}{4}$  grain of luminal thrice a day I reduce the dose to twice daily (morning and evening) for another fortnight, and then to a nightly or even occasional dose of  $\frac{1}{2}$  or  $\frac{3}{4}$  grain for three months or even more. Many sufferers from migraine will, I expect, require to take it occasionally, once or twice a week, indefinitely.—*British Medical Journal*, October 28, 1922.

## PEDIATRICS

Conducted by C. S. RAUE, M.D.

**PARENTERAL INFECTION IN INFANTS; ITS RELATION TO DIGESTIVE AND METABOLIC DISTURBANCES. REPORT OF ILLUSTRATIVE CASES.**—Harry R. Litchfield and Leon H. Denbo, with illustrative cases from a baby ward, point out that parenteral infections, occurring in infants previously debilitated, are dangerous elements, and often the final step toward a fatal termination. These "little infections" are present in some other part of the body other than the intestinal tract, such as the ears, nose, throat, and bladder, and are manifested by pyelitis, nasopharyngitis, bronchitis, or acute otitis

media. Also, these infections are the etiological factors which constitute the majority of secondary diarrheas. Parenteral infections are especially dangerous in hospital wards and the best means of combating them is rigid prophylaxis; careful supervision of the nurses in the baby wards, for frequently they carry infection; strict isolation of every infant suffering from upper respiratory infection (rhinitis, pharyngitis, etc.) upon admission. Parenteral infections are frequently the causes of severe gastrointestinal disorders in infants previously well, and should not be regarded as of minor consequence. Treatment should be aimed at the infection as an exciting cause and not only at the disturbances caused by it.—*Archives of Pediatrics*, October, 1922.

**TREATMENT OF DEHYDRATION IN INFANTS.**—The treatment advocated by Oscar M. Schloss, (*Boston Medical and Surgical Journal*, September 21, 1922) for cases of severe dehydration is as follows: The patient is given a subcutaneous or intraperitoneal injection of Ringer's solution or saline and within an hour an intravenous injection of 10 per cent. glucose solution. The amount of isotonic saline, or Ringer's solution, varies with the size of the infant; the usual amounts by subcutaneous injection varying from 80 to 300 c.c. and by intraperitoneal injection, from 125 to 400 c.c. Twenty c.c. of a 10 per cent. glucose solution per kilo body weight is the rule, and it is important that it be given within a short time after the saline, and it should be absolutely clear, as even a small precipitate may produce serious reactions. The treatment outlined may be repeated in 5 or 6 hours if necessary.—*Archives of Pediatrics*, October, 1922.

**D'ESPINE'S AND ALLIED SIGNS IN CHILDHOOD.**—In view of the great difference of opinion as to the exact meaning and interpretation of D'Espine's sign, John Lovett Morse clearly and conclusively explains the sign to which D'Espine originally called attention. This sign is a whispering sound following the spoken voice heard when the bell of the stethoscope is placed over the spinous processes. This sound is not heard under normal conditions. Normally the bronchial sound of the spoken and whispered voices and of the respiration does not extend below the seventh cervical spine. Dullness on percussion over the spinous processes stops at the same level. Extension of the bronchial sound of the spoken and whispered voices and of the respiration, as well as of dullness on percussion, below the seventh cervical spine is abnormal and has the same significance as the whispering sound heard after the spoken voice. The whispering sound after the spoken voice, D'Espine's sign, is often the earliest and only sign of enlargement of the tracheobronchial lymph nodes. It may, however, be absent when one or more of the other signs are present. The whispered voice is a somewhat more delicate test of pathological changes in the tracheobronchial region than is the spoken voice. The respiratory sound has an intermediate value. The value of percussion over the spinous processes is about the same as that of the respiratory sound. Interscapular dullness is a late sign and is found only when the pathologic changes are considerable.—*American Journal of Diseases of Children*, November, 1922.

**A CLINICAL AND CHEMICAL STUDY OF BUTTER SOUP FEEDING IN INFANTS.**—Alan Brown, A. M. Courtney and I. F. MacLachlan contribute an excellent and exhaustive study on the use of Czerny and Kleinschmidt butter-

flour mixture. The different opinions of authors of the subject, the preparation, composition and indications, analysis of cases (104), the results of chemical examinations showing retention of the various salts, composition of feces, distribution of fat in feces and water and chlorine retention, are completely covered in the paper. The authors conclude that the use of butter-flour mixture for very young and very small infants was generally attended by rapid and uniform weight gain, improvement in vigor, in tissue eugor, in disposition and in resistance to infection. Extraordinarily good results were obtained with many infants suffering from atrophy. It is not indicated, however, for children with diarrhea or other forms of severe fat or carbohydrate intolerance.

The caloric intake with this form of food was unusually high, averaging approximately 70 calories per pound. In some cases signs of mild rickets, or a condition simulating mild rickets, were seen after continued use of butter-soup. No edema was encountered. If the weight became stationary after long continued use of butter-soup, the addition of protein to the food or temporary feeding of a cow's milk dilution was sufficient to bring about a continuation of the rapid weight gain. The stools with this food were acid, strongly resembling those with breast milk feeding, but were much larger. Like breast milk feces they contained a high per cent. of fat.

Undoubtedly butter-flour mixture is a valuable addition to our resources in the feeding of premature, small and undernourished infants who are not suffering from any acute digestive disturbance.—*American Journal of Diseases of Children*, November, 1922.

**THE RATE OF SECRETION OF BREAST MILK.**—C. H. Smith and K. K. Merritt undertook this study to determine the rate at which the baby gets the milk from the breast and the average time which is taken to obtain the entire feeding. They find that nursing infants obtain the greater part of their feeding of breast milk in the first few minutes, from 40 to 60 per cent. in the first two minutes, and from 60 to 85 per cent. in the first four minutes. This holds true whether the supply is abundant, moderate or scanty. After eight minutes very few babies get any milk whatever.

The babies who need both breasts usually get less from the second than from the first side, except when one regularly yields a better supply; the rate is the same. It does no good to leave a baby from fifteen to twenty minutes at a failing breast in the hope of eking out a meager supply.

If a baby empties the breast in from five to eight minutes and shows no sign of discomfort from an adequate feeding obtained in that time, there seems to be no good reason why he should not take his bottle in about the same time. If the nipple holes are of good size so that the milk flows freely, nearly all strong infants will finish the bottle in less than ten minutes. They evince less distress than the nurse does over the rapid feeding. On the other hand, a slow nipple either discourages the baby so that he will give up in disgust before he has finished the bottle, or else makes him swallow so much air that he vomits or has colic.—*American Journal of Diseases of Children*, November, 1922.

**WHOOPIING-COUGH AND ITS TREATMENT.**—Appel and Bloom outline the history, etiology, pathology, symptoms, complications, sequelae, diagnosis, prognosis and, finally, the treatment of whooping-cough, in a thorough and

comprehensive manner. In the treatment of this affliction, therapeutists have run the gamut of the entire materia medica without finding any agent or group of agents that has proven of any avail in the cure of the disease or in its prevention. As to prophylaxis, the authors state that in vaccines, we have a valuable aid and most investigators now believe that prophylaxis by vaccines is good, if allowance is made for those cases in which the disease is probably incubative at the time of the injections. Medical treatment is unsatisfactory; the most we can hope to do is to lessen the severity of the paroxysms by antispasmodics. The principal drugs and methods used in the past are discussed and the efficiency of vaccines are particularly stressed; the results of many investigators being cited. In a disease so dreadful as whooping-cough and so fatal in its immediate, and so disastrous in its late consequences, whose mortality is constantly on the increase and against which all methods have proven of so little use, any new means of combating it is worthy of all serious consideration, especially when such means is logical and founded on etiologic grounds. Logical because the giving of vaccines in an acute febrile disease, such as pneumonia or erysipelas is not to be encouraged, since it is but adding insult to a system already overburdened by a similar poison and which has not had a chance to accommodate itself to the new condition. In a low-grade toxemia, however, such as whooping-cough, the injection of the vaccines will throw the balance in favor of the body as is clearly demonstrated by the fact that after the third and fourth injections, there is an aggravation of the clinical picture; which at the same time gives an impetus to the further production of antibodies and from then on, the body is able to take care of itself and improvement is noted. Such a means we have in pertussis vaccine. In those cases where it has failed to give satisfaction, it is probable that the strain of organism used in the vaccine was different from that producing the disease, or that a mixed vaccine was not used since secondary invaders are always present with the pertussis bacillus, or that an inert vaccine was used or the dosage not sufficiently large.—*Archives of Pediatrics*, March, 1922.

## ROENTGENOLOGY

Conducted by WALTER C. BARKER, M.D.

A ROENTGENOLOGIC STUDY OF PAIN IN THE RIGHT LOWER ABDOMEN.—In order to discover the origin of pain in the lower right quadrant not relieved by appendectomy, Case made a roentgenographic study of colonic physiology and pathology. He does not refer to the cases of acute appendicitis nor to the recurrent attacks of pain in the lower right quadrant associated with fever, leucocytosis and abdominal tenderness.

The outline of the normal colon or stomach is exceedingly variable. The motility of the meal is of greater interest than the position of the stomach or colon, although prolapsed elongation of the pelvic loop (sigmoid) is looked upon as important. The colon should be examined fluoroscopically several times during the period between the sixth and thirty-sixth hours following the ingestion of the barium meal. When palpated through the abdominal wall the flexures should be fixed, but the loops of the colon forming them should be separable, and the position of the cecum, ascending, transverse

and pelvic portions of the colon should be easily altered. Filling defects should be noted, and it may be necessary in some cases to study the patient in the Trendelenburg position.

The study of the transverse colon is important. It is quite movable especially with the various positions of the patient. It may be above the umbilicus at one time and a little later extend downward in a V shape into the pelvis, these changes in position occurring without any shift in the colonic contents. In the proximal colon under normal conditions, there is an antiperistalsis which may become greatly exaggerated under pathological conditions. In the distal colon, the activities are those of churning and onward movements. The principal peristalsis in the colon is the "spontaneous mass movement." In some cases this mass movement may take place from the cecum to the sigmoid, and usually results in a desire for defecation or occurs during defecation.

Following an opaque enema there may be a ring constriction passing along the colon either distalwards or in the antiperistaltic direction. These are usually the result of distention beginning in the cecum. Forward propulsion of colonic contents is aided by filling or emptying the stomach or colon.

Pseudo filling defects due to peristaltic activities, may simulate those produced by neoplasms. Gaps between portions of the meal in the ascending or transverse portions of the colon, may be seen, but by the screen examination during the injection of an enema, a differentiation may be made between these gaps and a tumor.

A filling defect may be produced by a small amount of air entering with the enema, and when the patient is prone, the air will usually become located in the middle of the ascending portion of the colon. Stasis in the proximal colon due to exaggerated antiperistalsis, may simulate adhesions or congenital membranes. When operations were first being discussed for abdominal stasis, the tendency was to look for veils and membranes at the terminal portion of the ilium or in the cecum. Later pericolic membranes were considered as the cause. At one time, it was thought that the ptosis of the transverse colon caused stasis, and fixation operations were performed which interfered with the mass movements of the colon. However, it is thought at present that the distal portion of the colon is at fault and functional troubles resulting in enterospasm, adhesions of the pelvic loop, large pelvic tumors, peridiverticulitis or rectal lesions such as hemorrhoids or ulcer may be the cause of colonic stasis. Enterospasm of the distal colon is often associated with adhesions, but it may be due entirely to irritation of the sympathetic nervous system or to a colitis or diverticulitis.

A point of arrest near the midline in the transverse colon must not be attributed to obstruction. Roith observes that in the middle portion of the transverse colon there is a zone on the distal side of which antiperistalsis does not occur, but on the proximal side, both peristaltic and antiperistaltic movements may take place. Cannon, Elliott, Barclay and Jacobi, all describe a colonic ring at this point of the colon. Chronic obstruction may be simulated by the appearance shortly after a mass movement, which will clear the distal colon of its contents below a certain point in the ascending colon. This will occur during the normal evacuation of the bowel.

Careful consideration of the physical data, all of which may be explained by the theories of Alvarez, shows conclusively that pain in the lower

right quadrant may be due to acute or chronic appendical involvement, or on the other hand, may be the result of the distention of the cecum and ascending colon following antiperistaltic influence set up by obstruction in the distal colon.—*Northwest Medicine*, Vol. XX, No. 7.

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## DERMATOLOGY

Conducted by RALPH BERNSTEIN, M.D., F.A.C.P.

**HERPES ZOSTER AND CHICKEN-POX.**—The relation between these two conditions, to which Bokay (Budapest) first called attention in 1909, has since been the subject of study by various authors in different countries, including Netter, who now reports eleven new cases. In all, chicken-pox appeared from thirteen to eighteen days after contact with a case of herpes zoster under circumstances which seem to exclude the possibility of any other source of contagion. Such cases are relatively rare; as chicken-pox is a very common disease, most persons coming in contact with a patient suffering from herpes zoster have been immunized by a previous attack of chicken-pox. The herpes zoster eruption is not always limited to regions supplied by the spinal ganglion or a segment of the central nervous system, which facts point to the presence of an infectious agent in the blood. An eruption of chicken-pox sometimes appears also in the same person a few days after herpes zoster. On the basis of these facts and others brought out by various investigators, the author, Arnold Netter, holds that the two diseases are caused by the same virus.—*Dull. Med. Acad., de med., Paris*.

**HERPES AND VARICELLA.**—According to W. M. Elliott, of nine cases of herpes occurring in the wards of the Ruchill Fever Hospital, chicken-pox developed in five, all within the acknowledged incubation period of the disease. In none of the outbreaks was any source discoverable. There was a reasonable doubt as to two of the remaining four cases being herpes zoster. In the other two cases of herpes zoster which were not followed by chicken-pox, there seemed no apparent reason (assuming that in the others the two conditions had a definite relationship to one another) why this should be so, for in each instance a considerable number of susceptibles were exposed. With the exception of one outbreak, the number of susceptible contacts attacked primarily is distinctly small. This is different from the usual experience when a ward becomes cross-infected with chicken-pox. In every instance except one the patient developing herpes was susceptible to chicken-pox, whereas none of them subsequently developed the disease, though they remained in the ward and became contacts of the succeeding cases of chicken-pox. A noteworthy fact is recorded in connection with a nurse who had preeruptive pain and went off duty before the eruption appeared, so that she was not in contact with any of the patients while the eruption was present. Of seven susceptibles with whom she had come in contact before the appearance of the eruption, two came down with chicken-pox. While no definite conclusions regarding the connection between herpes and chicken-pox can be drawn from such a small series of cases, it certainly appears that the significance of such a high proportion of herpes being followed by unexplainable chicken-pox cannot be altogether disregarded.—*Glasgow Med. Journ.*



**INOCULATION WITH SYPHILIS BY A BITE.**—Martini Giovanni reports that during a fight a man and a woman were injured by their syphilitic brother. The man, twenty-five years of age, sustained a bite on the nose. The wound healed in a short time, but about the twentieth day after the accident there occurred on the left ala of the nose an ulcerous lesion of oval form, of a diameter of about 2 cm. Then followed the typical roseola with fringed plaques. The serologic reactions demonstrated that the condition was syphilis. The sister of this man during the fight sustained a bite on the right hand. The abrasion healed in sixteen days, but on the dorsal surface of the first metacarpal bone there appeared a small nodule that in the following days was transformed into a typical ulcerative lesion. After a short time she too manifested the typical signs of secondary syphilis.—*Riforma med.*

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### PATHOLOGY

Conducted by JOHN G. WURTZ, M.D.

**STUDIES IN FOCAL INFECTION.**—DeNiord and Bixby (*Jour. Lab. and Clin. Med.*, July, 1922, p. 573) have made studies of the blood of persons whose diseases were attributed to focal infections. In this article, which is given as a preliminary report, the authors state that there is an increase of uric acid in the blood of persons who have a focus of infection and state that the increase is due to cellular destruction. Removal of the focus, not always easily found, not only greatly benefits the patient, but gives markedly lessened blood uric acid values. So long as the blood uric acid remains higher than normal, the focus still exists.

**STUDIES ON ENZYME ACTION.**—Falk, Noyes and Sugiura (*Jour. Bio. Chem.*, July, 1922, p. 75), in their twentieth publication on this subject, deal with the protease action of malignant human and rat tumor extracts at different hydrogen ion concentrations and in the presence of various salts. Since chemical changes which occur in living matter are influenced or controlled by enzymes and their actions, a modified enzyme action may be expected in pathological conditions. This is what these workers investigated. Much detail is included in their report. Calcium salts retard the protease reaction. Rat and human tumor extracts were essentially the same. The optimum pH value was found to be 7.0, with a more rapid decrease on the acid than alkaline side. The hydrogen ion concentration for the optimum action is very nearly that of the blood and probably most of the tissues. Results found have some significance.

**THE LIPIDS OF THE BLOOD IN TUBERCULOSIS.**—Henning (*Jour. Bio. Chem.*, July, 1922, p. 167), points out that in the blood the lipoids are found normally in a fairly constant quantitative relationship to each other, and that when one of the blood lipoids is high, similarly high values are to be expected for the others. While blood lipoids have been studied in several diseases, they have not been studied in tuberculosis, though fat rich diet, lipid material in the characteristic tubercle and toxemia figure in the disease. After discussing the work, the author reports that cholesterol was found to be uniformly low in tuberculous blood when determined by the saponification method, but normal when determined otherwise. This in-

dicates that in the plasma in tuberculosis there is present a relatively large amount of an unknown substance which seems closely related to cholesterol. Total fatty acids and lecithin were within the normal values. The residual fatty acid of the blood was high, and since there was no lipemia the presence of other forms of fatty acid combinations than those ordinarily present is suggested.

## OPHTHALMOLOGY

Conducted by WILLIAM M. HILLEGAS, M.D.

**AMBLYOPIA EX ANOPSIA AND RECOVERY OF VISION.**—Years ago the terms Amblyopia and Amaurosis had about the same significance and importance in ophthalmic practice that were possessed by “dyscrasia” or “scrofula” in general medicine. Some ancient professor humorously defined these terms: “When the patient sees nothing and the physician can see nothing then you are dealing with an ‘amaurosis.’ If on the contrary, the patient can see a little but the physician still can see nothing, it is an ‘amblyopia.’” The use of the ophthalmoscope with its possibilities for more accurate diagnosis progressively discouraged the resort to such vague terms in ophthalmology.

There remain however a number of cases with loss of vision in which demonstrable ocular lesions are conspicuous by their absence, such as:—Various degrees of disassociation between the visual centers and other cerebral centers:—Symptomatic amaurosis due to the effect of toxins on the brain, as in lead poisoning, amblyopias with no probable cause other than disturbance of psychic perception, as in hysteria, amblyopias resulting from failure to use the peripheral organ of vision or to a lack of education of visual centers, amblyopia ex anopsia. Perhaps no group of cases suffering from loss of vision without evident ocular disease is more important when measured by their frequency, the customary neglect, and the benefits obtained by proper treatment, than the latter.

The question whether such amblyopias are due to functional inactivity or to congenital disability has aroused considerable discussion. Nearly every oculist who has studied and treated cases of strabismus with an open mind agrees that the amblyopia of the non-fixing eye in strabismus convergence is the result of non-use.

W. H. Luedde, *St. Louis*, then cites some interesting cases cured by patient work in training the poor eye, and concludes “That it is not always possible to regain vision in the deviating eye, but where it has been proven impossible after consistent and persistent effort, there are no vain regrets on the part of either patient or physician. Successful treatment in even a few cases should be an incentive to do our utmost for every one thus afflicted.”

Mischief has been wrought by the erroneous beliefs of Silex and others that there was no amblyopia ex anopsia, in the failure to encourage prompt and vigorous measures for the restoration of vision in cases of disuse, especially in strabismus. All of us who believe that functional inactivity is a most important cause for loss of vision have both the right and duty to act in accordance with our convictions, to prevent the increase of the amblyopia and to improve the vision if there still remains an opportunity to accomplish it.—*Amer. Jour. of Ophthal.*, June, 1922.

## UROLOGY

Conducted by LEON T. ASHCRAFT, M.D.

**NEPHROTOMY AND DECAPSULATION FOR ANURIA IN A CASE OF SINGLE KIDNEY: RECOVERY.**—S. S. Leopold and M. Behrend state that the references in medical literature to nephrotomy and decapsulation in cases of single kidney are few. The author believes the case he reports is unique in that right nephrectomy had been performed four years prior to nephrotomy and decapsulation on the left kidney.

The patient was a white male 17 years of age.

A purulent urethritis acquired in some unknown manner at the age of 3 years and neglected resulted in the formation of a urethral stricture which manifested itself symptomatically at the age of 13 years. Operation for impermeable stricture at the age of 17 years was followed six weeks later by nephrectomy on the right side for hydropyonephrosis. An interval of reasonably good health for four years, except for chronic cystitis, was then followed by four attacks of colic in the left kidney, the last culminating in attack of anuria in which only 5 ozs. of urine were voided in one hundred hours. The longest period of complete anuria was thirty-five hours. Impending uremia was indicated by a blood urea content of 75 mg. Nephrotomy and decapsulation of the single kidney were followed by prompt re-establishment of the normal urinary output and recovery. "The ex-cerpter says that the surgical prognosis in this case was correctly foretold by an examination of the blood Urea."—*Surg. Gynec. and Obst.*, 1922, xxxiv, 677.

**SPHINCTEROTOMY PER URETHRAM: A SIMPLE AND SAFE PROCEDURE FOR THE CURE OF CONTRACTURE OF THE VESICAL ORIFICE.**—The author of this procedure, J. T. Geraghty, says—The "prostatisme sans prostate" of the earlier French literature or the "median bar" of more recent literature is due to inflammatory infiltration at the vesical orifice. Involvement of the muscle fibers of the internal sphincter causes a narrowing of the outlet and a decrease in the relaxation of the sphincter. Complete and permanent relief may be given by simple division of the internal sphincter posteriorly.

Because of the sloughing and hemorrhage which not infrequently follow the modified Bottini operation of Chetwood and the use of the Young punch and of the cautery punch suggested by Caulk, the author has devised an instrument for simple division of the sphincter through the urethra. Through a tube similar to the outer sheath of the Young punch, a wedge-shaped concave knife which accurately fits the tube is used. Under local anesthesia and with the bladder dilated, the vesical orifice is engaged in the fenestra, the knife is introduced, and the fibrotic ring incised. If a deeper incision is required, the ring is lifted into the fenestra with a forked spear. The operation is no more painful than the average cystoscopy, and requires only a few minutes. The urine is merely tinged with blood and a retention catheter is unnecessary.—*Jour. Urol.*, 1922, vii, 307.

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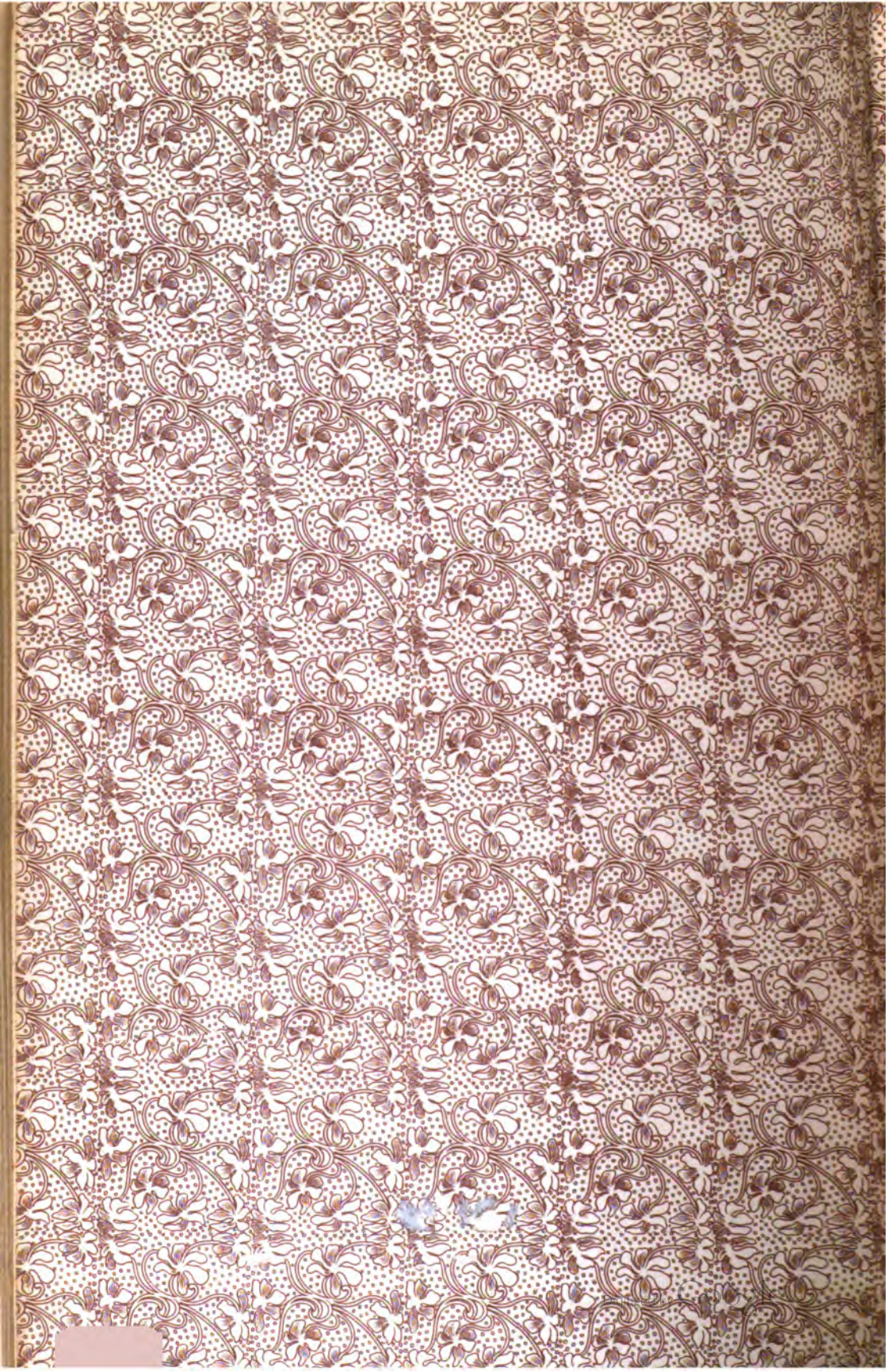




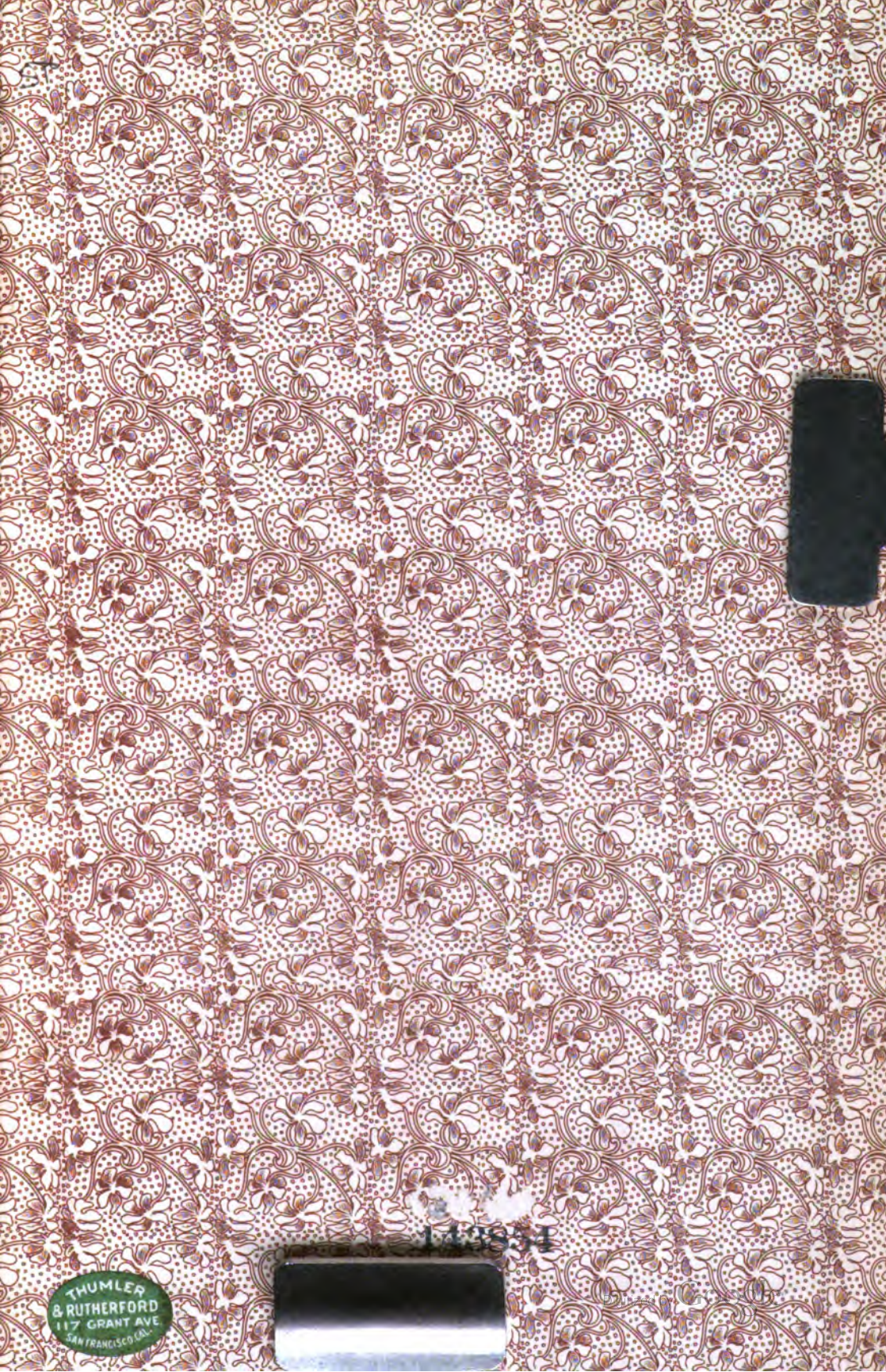












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